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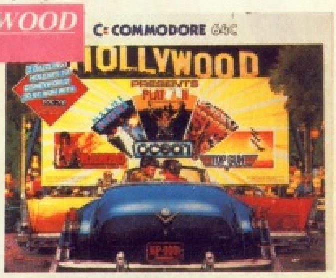

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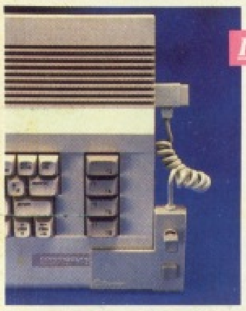

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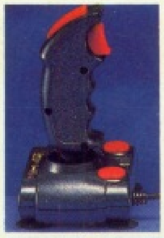

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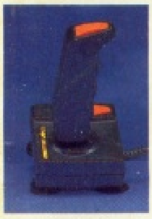

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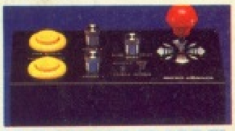

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FEBRUARY 1989 Volume 7 No.6

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CCI View

Dear CCI Reader,

The month of living dangerously . . . that's what these last four weeks have been. Computer games have been raining down like lava from an erupting volcano. Turn your head and another corner of your desk has filled up. Piles of them appear on top of monitors, under chairs and in rubbish bins, especially in rubbish bins to which so many of them will eventually be consigned. What has to be said, however, is that this year's end does not see the finish of the 64, as has been predicted so often, but the end of the successful full price game that doesn't have real quality. Operation Wolf, R-Type, Emlyn Hughes International Football, Microprose Soccer, Batman, SDI, Double Dragon, Total Eclipse, Game Set and Match II, and the as-we-go-to-press-still-unobtainable Afterburner and, of course, U.S. Gold's Thunderblade, all are of a standard that may well contribute to the undoubted revival of the 64 as the leading home computer in the U.K. and overseas.

Over 40% of the computer dealers polled in the U.K. by the trade publication, Computer Trade Weekly, said they thought the 64 would top the end of year sales chart. While the Spectrum, its longtime rival, was alloted a derisory 2%. By the way, the Amiga took 20%.

Of course, those buying, or being given, a 64 may well treat it as a games machine and nothing else. Many people already do. However such a judgement should be carefully confined to specific countries. For as our coverage of the leading global CBM Show, the World of Commodore, held in Toronto, indicates, in Canada, where CBM originated, the majority of Commodore owners appear to be a rather older and more seriously inclined group.

The World of Commodore Show was partly a celebration of 30 years of Commodore's existence, going back to its beginning as a manufacturer of typewriters, calculators and even copiers. It would be no surprise if Irving Gould, still its boss, looked a little bewildered at the very high tech hardware on CBM's Stand. A 40 megabyte drive no bigger than 4 inches tall . . . a transputer-based machine running multitasking and multiuser material at a frighteningly fast pace . . . CBM has come a long way from hand-operated adding machines. . .

So has that flood of games. . .

As someone said to me the other day, "The Amiga has made a terrific difference — to 64 programmers."

What he meant was that the Amiga level of technology has opened up the imaginations of programmers all round. And software companies have realised that the shadow of the Amiga lies over all machines. The games players in particular move quickly with their demands for what they can see, whether the screen is for an Amiga or for an 8 bit computer. So the 6502 programmers have been stimulated into driving the limits of the 8 bit machines forward to challenge the 16 bit. In some cases they have made it a real fight. There are those at CCI who believe the U.S. Gold's Thunder blade is at least as good on the 64 as it is on the Amiga, and it is the sheer quality of the programming that has made it so.

What we are seeing, and the mass of well-programmed games provides the evidence, is a rapid pushing forward of the state of the art in home computing which can only benefit everyone involved, even those whose main interest is not games.

A support for the view that the 64 has advanced so greatly in quality software came at the recent Commodore Show in London. Sensible Software, who programmed the new Microprose Soccer had to have a notice stuck up their Stand over the monitor on which the game was running. "This," the notice said, "is not an Amiga version." A year ago that explanation would not have been necessary, now it is.

Antony H. Jacobson
Managing Editor and Publisher

Next Month . . . The Oscars!!

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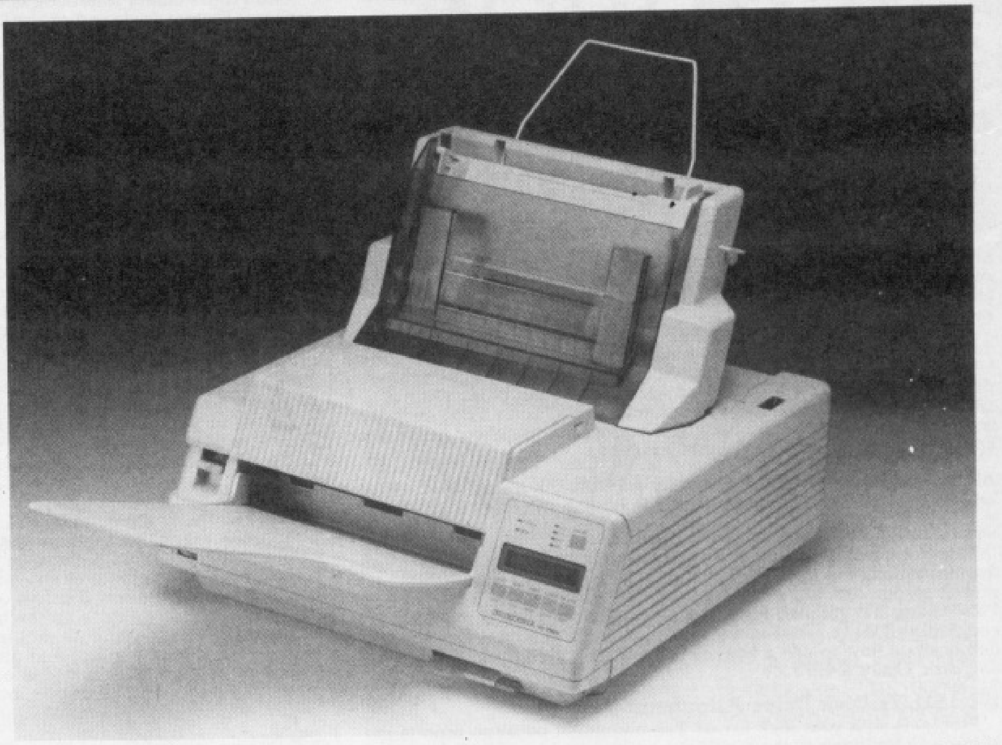
LED to replace Laser Printer's



Seikosha's LED printer OP-105

With the launch of its new LED printer, Seikosha claims that within two years LED printer technology will have replaced the Laser as the favourite letter quality office printer. Seikosha's OP-105A is only the third LED printer to be launched onto the British market, although other introductions are expected shortly.

The printer operates at 5 pages oer minute and has four built-in emulations; IBM PROPRT, HPLJH, EPSON FX and DIABLO 630.

Seikosha general manager David Chadwick claims a number of advantages for the LRD printer. Firstly it is lighter and smaller than the equivalent laser. This means easier portability, and less office space intrusion.

Secondly says Chadwick the LED offers the potential of cheaper printing — a result of using less consumables. Competitive laser printers to the OP-105A says Seikosha are currently working out at around 2.2p per page, whilst the LED is estimated at less than 2p.

Thirdly there are fewer moving parts in the LED printers. That means there is less to go wrong. In the past the accusation has been made against LED printers that they suffered from intensity variations. But now Seikosha claim to have solved that problems.

Commented David Chadwick, "Just as the Laser has proved the natural successor to the daisy wheel, then I believe the LED printer will replace the laser. Meanwhile I think that there will still be an important place for the dot matrix printer, which can still offer considerable price advantages over its alternatives. But Seikosha believes that the future of the letter quality printer is with the LED".

In addition to the OP-105A Seikosha are expecting to announce other LED models before the end of the year.

Contact: Seikosda (UK) Lii Unit 14, Poyle 14, Newlands Drive, Colnbrook, Slough, Berkshire, SL3 0DX.

Mindscape's Aussie Joker Poker

Aussi Joker Poker, a computerized card game popular in Australia is being released in the United States on the 64 and Amiga.

In Aussie Joker Poker, the computer acts as the dealer and croupier, and distributes the winnings at the end of each game. Up to 90 players can compete against one another, and can tailor the deck sizes and rounds per player to suit their preferences.

The introduction of Aussie Joker Poker will be backed in the U.S. with a sweepstakes featuring $200,000 in cash and prizes. The contest will fly 20 people to Las Vegas to compete in an Aussi Joker Poker competition with a top prize of $100,000.

Contest finalists will be chosen at random from persons sending in entry blanks before April 30, 1989. They will receive a round trip for two to Las Vegas and a two-nightstay at the Golden Nugget Hotel, as well as a chance to win the top prize or $25,000 in other prizes.

Joker Poker International products will be awarded to 1,000 entrants not chosen as finalists in the sweepstakes. Purchasers of Aussie Poker who believe that they may be among the 25 best poker players in the nation will also be able to play in a special competition mode and to enter their scores for consideration for an Aussie Joker Poker Hall of Fame.

Price $29.95 for the 64/128 and $49.95 for the Amiga Aussie Joker Poker was created by Joker Poker International, an Australian-based publisher of non-violent entertainment software products.

Computerised travel

IN JAPAN, lap-top computers feature in a plan to bring the booking of airline seats, cars and hotels into the traveller's home or hotel room.

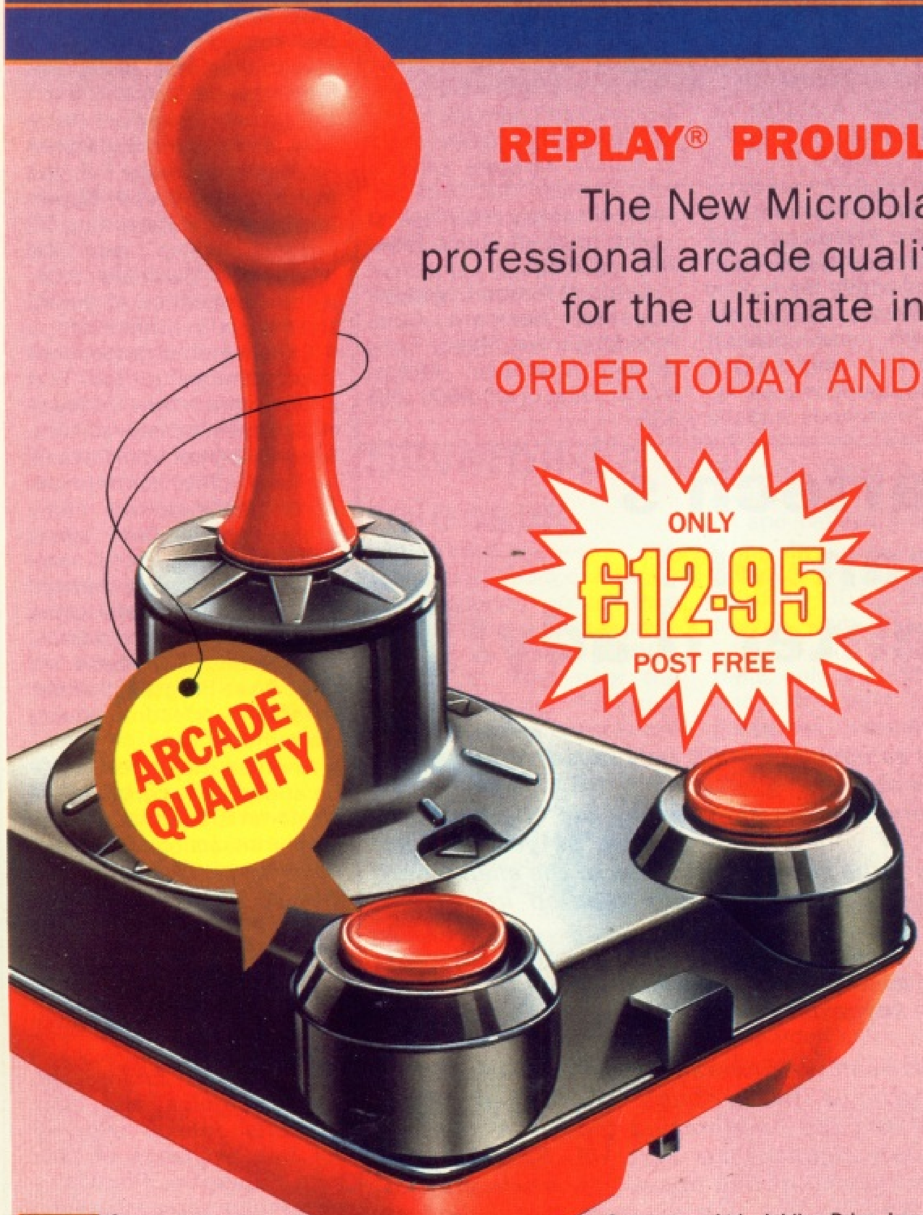
At the moment, travel agents have desk-top machines at the agency premises, to which the customer must go. Under the new system, the lap-tops, carried like a brief case, will be taken to the customer by the agent. He will visit office or home, plug the computer into a telephone socket and operate as if he were in his office.

Te idea is the brain-child of US-based United Airlines, which will use Toshiba lap-top personal computers as an element of its computerised reservation system in Japan.

The system is part of the world-wide Apollo network developed by United and now working at 9,300 travel agencies in 42 countries.

NEW

MICRO BLASTER



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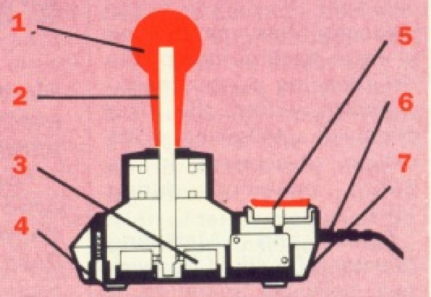

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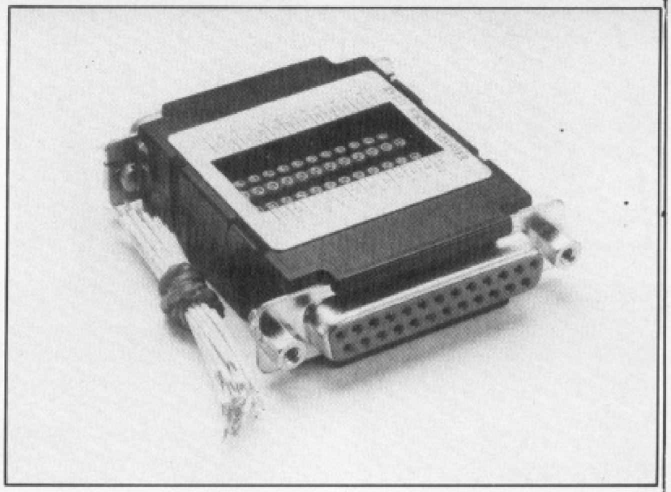
New RS 232 Quick Patch Box from Action Allows Rapid Reconfiguration of Data Cables



Action's new RS 232 Quick Patch Box allows existing cables to be speedily reconfigured to suit changing equipment, and avoids having to wait for new cables to be made up before the equipment can be put into operation.

The patch box has male and female connectors, the connector pins being interconnected within the box by jumper leads. These are fitted with easy push-fit connectors, so that the pin-to-pin connections can be changed in seconds, and the cable effectively reconfigured.

The price of Quick Patch Box is £20.00.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA10 1WL. Tel: 0800 333 333.

Seikosha Major Market Assault

Seikosha has announced plans to become one of the UK's leading printer manufacturers within the next three years, following a £2½ million investment in its British operation during 1988.

Sales and Marketing Director David Chadwick says Seikosha is aiming to capture 15% of the total business printer market by 1992. The company plans to introduce three new printers warly in 1989. These include a compact LED printer which, claims Chadwick, will ultimately replace the current Laser Technology.

During 1988 Seikosha has been responsible for a number of product introductions including the heavy duty SBP10, which at 800 cps, is claimed to be the fastest dot matric currently available. Also central the the Seikosha development in the UK is the establishment of a substantial purpose built factory at Hamburg which will Manufacture the entire European printer output from the company.

Martech's Phantom Fighter (Lady!)

Martech are releasing Phantom Fighter. Over excited as usual, their PA lady raved yodelling PA phrases at us.

"Swerve in an exhilerating arc, battling for control of your ghostly fighter, as you seek to dominate the skies. Landscapes of the alien world flash by in a blor of multi-coloured irridescent hues.

Your finger moves to the phalanx missile button as the first wave of Echelon Destroyers scream towards you, their cannons blazing in anger."

At this point we cowered behind our desk but she advanced on us still chanting). "The flash of orange and red and the breathtaking thud of a massive shockwave signals your first kill. Sparks spray from your glowing wing tips as you accelerate into a mind warping dive. Can you make it over the first land mass, and if so, what further dangers await you?"

Well, we definitely couldn't even get past her. She was terrifying.

We hurried home to lie down and rest after this frightening encounter and found a note nailed to the front door. "Programmed exclusively by Emerald Software for discerning Amiga and PC (CGA/EGA/TGA) owners everywhere who dream of conquest — (sorry ST owners — your computers couldn't handle the graphics!)"

The Phantom Fighter PA lady had struck again!

Superbase Pro Enhanced

Superbase Professional, the most powerful database for the Amiga and Atari ST computers, has been enhanced even further.

Precision Software have now built into Superbase Professional many of the features included in Superbase 4, their outstanding PC product, which won the prestigious Database Challenge competition at the PC User Show in June 1988.

Enhancments range from improvements to the Text Editor, which now includes cut, copy and paste facilities, to extensive communications facilities. The communications facilities are fully programmable and allow for everything from local RS232 links to time-delayed automatic file transfer using Hayes compatible modems, and from Superbase to Superbase program transfer to on-line teleconferencing via remote host.

Another major feature to be added to Superbase Professional is automatic multi-line transaction handling. Previously available only by writing a Superbase program, automatic transaction handling can now be built in to invoices and other similar forms at design stage from menu options in the Forms Editor.

Superbase Professional on the Amiga also now supports ARexx, allowing for free exchange of data with Superplan, Precision's new Amiga spreadsheet due for release shortly.

Superbase Professional Version 3 sells for £249.95 (inc VAT) — which is no increase in price over earlier versions? As with all Precision Software products, existing registered users will be able to upgrade their product for a modest charge.

Contact: Precision. Tel 330 7166.

Flicker-free screen

A mono screen, similar to a liquid crystal display, that has an 'ink-on-paper quality' image and can be seen in sunlight from any angle has been introduced to the UK by Image Displays.

Typical applications will be for laptops and desktop publishing. A colour version could be available next year.

John Freer, managing director of Image Displays, said: "People spend their day staring at these things so a screen like this is very attractive.

"It will be important to salesmen using laptops who can't control the selling environment. Even if it's very bright, they've still got to get the point over."

Freer is already talking to a number of manufacturers interested in using it.

The screen uses liquid crystal sandwiched between two pieces of glass, but differs from standard LCDs in two ways.

Once the electric current has activated a cell to make it dark it stays dark and does not have to be refreshed. This makes the screen flicker-free and almost like a printer page.

The other difference is that it has no polarisers allowing it to be viewed from any angle.

Precision's Superbase 2

Precision Software, leading British developer of database software, has expanded its range of database products with the introduction of Superbase Personal 2.

Superbase Personal 2 adds considerable enhancements to the power, ease of use and flexibility of Superbase Personal. They include a text editor with word processing features including cut, copy and paste for day to day text creation and mail merge, enhanced data handling capabilities including batch for speedy data entry, a time field type, and additional validation options including cross-file look up for accurate data. It also includes built-in communications features for swift data transfer. Superbase Personal 2, which retails for £99.95, says Precision, 'sets new standards for file management systems retailing below £100.

The new product has led to a change in price for Precision's entry level product, Superbase Personal. Superbase Personal, winner of the Million-In-One Award for selling a million dollars worth of product in its first year of release, will now retail for £59.95 inc VAT.

Superbase Personal 2 will be distributed alongside Superbase Personal, which has sold 185,000 units to date, and the fully programmable Superbase Professional.

Contact: Precision 01-330 7166.

Image Tech, a new U.S. Company has announced four new products

Dungeon Quest: A graphic adventure 'featuring state-of-the art pictures and sounds,' for Amiga and IBM.

Obsession: An ancient strategy game with 15 levels of play, for Amiga and IBM.

Gateway — 'A door to CLI.' A special user interface for the Amiga. It allows users to click on filenames instead of typing. It is claimed to be a complete Workbench/CLI replacement.

The Inner-Office Collection: Professional clipart for Amiga in IFF format, and IBM.

Silverbird's releases

SILVERBIRD — the Telecomsoft budget label — has released some new games. One seems especially odd. It is called **VIDEO CLASSICS**. Remember the days of those addictive games in a time when home computers had no keyboards, black and white displays and went "Blip!" Well, **Video Classics** echoes them in colour with up to-date sound and graphics. It incorporates six games: **Squash** for 1 and 2 players; **Tennis**, **Football** and two existing new games 8 **Four-Bat Blip** and **Astrobliperoids**.

Video Classics will be available for the Commodore 64 and believe it or not the C16.

The other games include SKUBA KIDZ. Save your friends from the evil Sea Lords — swim through eight reefs, unlock the Sea Lord's doors and fight off deadly fish with your bubble gum (sorry — gun!)

Skuba Kidz is for the C64.

PETER PACK RAT is an arcade conversion, featuring cute little rodent who lives in a junkyard. Spend the day collecting goodies to take back to your den but don't be fooled by the tranquility because bully Riff Rat and his trusty minions are close by to spoil your peace and quiet!! "Avoid him and the endless list of vicious villains to collect everything from the junkyard, explore the sewer and look in the special Tree." says Silverbird (C64).

CAULDRON II. This former Palace game is now available from Silverbird at £1.99. Sequel to Cauldron, Cauldron II takes you through the depths of the forest to the mighty palace from where the evil witch queen rules the land. as the pumpkin warrior and the only remaining survivor of the queen's reign of terror, you must do battle against all odds, combat the evil witch and wreak revenge to save your land. (C64).

Other games due out from Silverbird shortly include International Speedway and Motorcross Mania.

From 5.25in to 3.5in

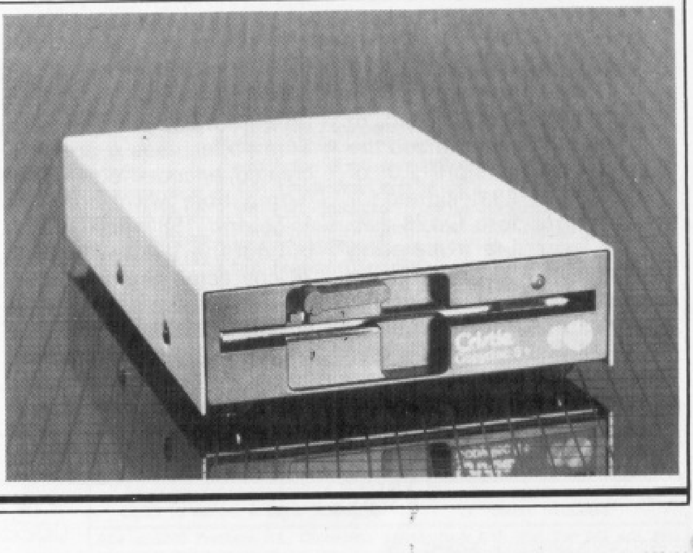
Cristie Copydisk units allow data to be interchanged between standard 5.25in drives.

The Copydisk Series consists of six units which between them are claimed to support nearly every known PC and compatible. It ranges from the Copydisk 3, which has a capacity of 720KB and supports IBM PC/XT and compatibles, to the Copydisk 5+. This has switchable 360K/1.2MB capacity, and supports all IBM AT and PS/2 systems.

"These units provide users with an easy facility for swapping programs and data between existing PC/XT/AT machines with 5.25in drives, and the newer PS/2 and other PC compatible machines with 3.5in drives" says Action Marketing Director Dick Sheppard.

Copydisk units are connected to the floppy controller via adaptor cables, so do not take up extension slots in the computer. Prices range from £240. for the Copydisk 3 to £339.00 for the Copydisk 5+.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL. Tel: 0800 333 333.



Have a Computer problem? WD40 it!

Reinking printer ribbons or replacing ribbon cartridges is one of the more common maintenance problems associated with personal computer ownership. It is claimed that the trouble of reinking a printer ribbon can be reduced by applying 'WD-40'. Ribbons they say can last up to three times their normal life by applying WD-40 with a small paintbrush or stamp pad section.

another problem area which some computer users notice is the oxidation which occurs on connector fingers on the circuit boards.

WD-40 is also said to be useful on stuck keyboard keys and any moving parts of the computer mechanism. The product can be used on computer circuitry as it contains no silicone.

WD-40 around the office is also useful on squeaky chairs, sticking file drawers and noisy door hinges. From the list of things they tell us you can use this 'wonder product' on, it is surprising it is not available on Doctor's prescription only!

WD-40 is totally environment friendly, it will not harm the ozone layer as it contains no CFC's. WD-40 is available at auto-accessory shops, DIY superstores and other retail outlets.

Contact: Publicis, 24 Nutford Place, London W1H 5YN. Tel: 01 723 3484.

CD-ROM moves on

Microsoft, Sony and Philips have announced their collaboration to develop an extended standard for data for CD-ROM technology.

The new format is intended to develop CD-ROM standards to cover graphics and audio data. The current standard, ISO 9660, is for text-based storage only.

The joint annoucement coincides with a number of CD developments.

Microsoft has a range of CD-ROM products, including the Programmer's Library and the Bookshelf collection, which was launched in the US early in 1987. They say that Bookshelf, will be launched in the UK in the middle of next year.

According to Microsoft, negotiations are underway to incorporate a British-English dictionary from the same publisher as the existing American Heritage dictionary on the porduct, as well as other UK-orientated reference material. The new data would probably be stored alongside the US data, not published on a separate disk.

Toshiba US claims to have the smallest and fastest CD-ROM. The XM-3201, which has a SCSI interface and integral audio capability, has a 680Mb dirve, an average access time of 400msec and is 2.75x8x9 inches.

AGA claimed to be offering the first 'plug in and play' re-writable optical disk for DOS and OS/2 computers. The company's DISCUS system is said to enable users to immediately store and use DOS and OS/2 applications, using a plug-in SCSI host adaptor card and 3M's 650Mb erasable disk.

AGA was charging $4,995 for an internal, and $5,495 for an external unit. 3M's disk cost $250.

Sony's has erasable optical drives too. The company claims that its SMO-S501 sub-system and SMO-D501 drives store 650Mb of erasable data, and conforms to the ISO standard. The drive is said to cost $4,650.

Hitachi has cut the price of its CD-ROM dirve. Its 1503S stand-alone, PC or SCSI-compatible drive has been dropped to £630.

Plasmon Data Systems of San Jose, California, has announced the Plasmon 402, 400Mb write-once the Plasmon 402, a 400Mb write-once optical disk which double the capacity of the company's earlier drive.

CD-ROM information

Information about Europe's top 25,000 companies will be available in January on CD-ROM (Compact Disk read only memory) from Clarinet Business Publishing. Data will be supplied for an annual subscription of £18,000 which includes a personal computer with built-in CD-ROM drive and a monthly upsated disk.

The product is the result of an agreement between Clarinet, Extel Financial, and ICC Information Group, both of London. CBP, a major European optical disk software house, will first combine the Extel Exstat information on 4,000 top public companies with the ICC data on the top 21,000 private companies. Historical data, market research results and City analytical reports will be added at a later stage.

CBP specialises in compressing business and financial data electronically on to CD-ROM disk and providing high speed retrieval software that will integrate information from sources such as Extel and ICC.

Contact: Clarinet UK. Tel: (0726) 600 396.

Compumart's Starter Pack

Buy a Citizen or other dot matrix printers from COMPUMART and you will receive a special Starter Pack worth over £30.

The Starter Pack contains 1,000 sheets of listing paper, an extra ribbon and an interface cable to get you started.

The printer range offers 9 & 24 pin models — allowing 80 & 132 column widths — all with friction and tractor feed, and print speeds up to 288 cps in draft and 96 cps in NLQ.

They tell us that if you phone COMPUMART'S HOT-LINE on (0509) 610444 the printer of your choice will be delivered free the next working day — plus, of course, the Starter Pack.

128 Security

Herne Data Systems Ltd, of Toronto, has announced the release of version 2.0 of Scramb'ler-128 designed for the Commodore C-128 personal computer operating under CP/M. Because Scramb'ler relies on specific hardware featuress of the C-128, it does not run under 'generic' CP/M.

Scramb'ler is a user application transparent, high security disk encryption system which protects vital and confidential data from un-authorized access. Scramb'ler uses a specially created, encoded disk format (compatible with both the 1571 and 1581 disk drives, but not the 1541) with up to 20 character personal password data encryption. With Scramb'ler, the entire disk is encrypted, not just file directories. You cannot even display a disk directory without knowing the correct password. Even low level disk sector editors will only display garbage without Scramb'ler correctly installed.

Scramb'ler is menu driven, but can also be directly from a single CP/M command line to facilitate auto start up from a CP/M SUBMIT file. Once Scramb'ler is installed with the correct personalized password, any standard CP/M program, such as WordStar, dBase, MBASIC, etc, can fully access to scramb'led disks.

Scramb'ler is compatible with all standard versions of C-128 CP/M and does not interfere with non scramb'led disk access. It supports both the 40 column and 80 column modes of C-128 CP/M. Price $19.95.

Contact: Herne Data Systems Ltd, P.O. Box 714, Station C, Toronto, Ontario, M6J 3S1, Canada. Tel: (416) 535-9335.

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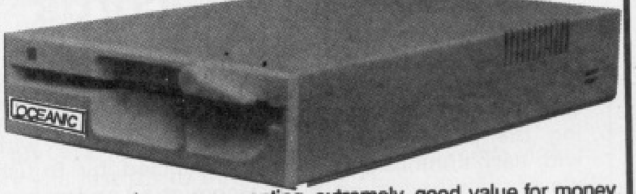

A superb package representing extremely good value for money, combining the Oceanic OC-118 disk drive (previously sold as 'Excelerator+') and the sophisticated GEOS system. Said by COMPUTE's Gazette to have "dramatic improvements over the 1541 in quality and reliability", the drive is a stylish and attractive compact unit featuring a direct drive motor and its own external power supply. GEOS brings the power of a graphic interface and integrated disk turbo to your '64 and includes geoPAINT, a graphic workshop, geoWRITE, a WYSIWIG word processor and many Desk Accessories. Many more extensions available - see below.

Oceanic OC-118 & GEOS £129.95

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GEOWRITE WORKSHOP	£24.95	GEOCALC 128	£32.95
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star LC-10

Best-selling CBM ready printer

Now the established market leader in this price category, the LC-10 incorporates many advanced features for such a low price. Its facilities, not normally available in this price range, include 4 NLQ fonts (with 96 combinations) and paper parking (use single sheets without removing tractor paper). Good value 7-colour version also available, which will also accept standard LC10 black ribbons. LC10 available either in '64/128 ready form or as parallel version for Amiga users. Please state your computer type when ordering.

Only £199.00

Colour version also available,

Only £249.00

Prices include two extra black ribbons free of charge

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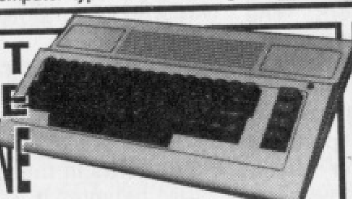

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1541 PHYSICAL EXAM ...... Consists of digital alignment disk and drive fault diagnosis software to check and correct 1541 head alignment. Includes quiet drive stops **£39.95**

1541 QUIET DRIVE STOPS ...... Silences 'knocking' noise with 1541 drives **£4.95**

AZIMATE 3000 KIT ...... Kit to check and adjust data recorder head alignment **£6.95**

AMIGA 500

SPECIAL OFFER AMIGA PACK

Contains Amiga 500, TV modulator, Mouse, Joystick, Mouse Mat, 5 disks of public domain software, 'Photon Paint' and 7 top games ('Karate Kid II', 'Goldrunner', 'Grid Start', 'Demolition', 'XR 35', 'Atax' and 'Las Vegas'). Total retail value of extras supplied is £270.45.

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Philips CM8833 (Colour monitor suitable for Amiga 500) **£229.00**

Philips CM8852 monitor as above, but higher resolution **£299.00**

Cumana external 5.25" floppy drive 40/80 track 'Transformer' compatible . **£159.95**

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Hewson's Stormland

'Free the imprisoned fairy folk before they are obliterated by an evil Queen. She stoops to conquer the land Stormland inhabits, destroying the peaceful euphoria with each annihilation.' Yes, it's an announcement by a software house that sounds like they've gone over the top again.

Hewson who write better games than press releases tell us that Stormland's mission — is to free the captured and defend the peace and tranquility of his realm. Ultimately, he must repel the wicked monarch, but should he fail, the evil Queen and her dark sovereignity will reign forever". Forever? Ah well, you win some and lose some. . .

It will be coming soon — from Hewson by their top author Raffaelle Cecco, creator of Cybernoid, Cybernoid II and Exolon, for the Commodore 64 and Commodore Amiga.

Credit-card size Medical Records

Drexler Technology, a Californian laser recording card company, has scored a success in the UK with a trial conducted by British Telecom at a London hospital.

The cards, on which data is recorded optically in rows and columns as opposed to the circles of the more familiar optical disk, are about the size of a credit card. But they can hold up to 800 pages of text, or eight digitally recorded frames of a TV picture. They allow personal medical information to be carried by the patient so that doctors can make a rapid and accurate assessment.

Other medical trials were recently started at the Baylor Medical School in Houston, Texas, and also in Sardinia by Olivetti, the Italian electronics group. The Swiss pharmaceuticals body, Ofac, is arranging similar tests in France, Switzerland and The Netherlands.

The unnamed London hospital is conducting a controlled trial of about 100 pregnant women, who will bring their card each time they visit the antenatal clinic. The doctor or midwife simply plugs the card into a reader and reads the woman's records on a personal computer screen. Any new information can be added to that on the card via the keyboard, which is not erasable.

British Telecom have called the Drexler LaserCard the RecallCard. BT is one of 26 Drexler licensees, which include most major Japanese electronics companies and many in the US and Europe.

X-rays for chips

The IBM Yorktown Heights laboratory in New York reports it has developed a method of generating and directing X-rays to produce the extreme microscopic pattersn on silicon needed for the chips of the future.

If chips storing more than 10 to 20 begabits of data are to be manufactured, the most likely method will be by shining X-rays through patterning masks on to the chip, rather than by using light as at present. The reason is that, if the patterning holes in the mask are very small, light tends to diffuse the edges and produce indistinct patterns on the silicon. The effect, called diffraction, is minimised if the wavelength of the radiation is smaller, as with X-rays.

IBM is achieving half-micron spacings of elements on the chip. A micron is a millionth of a metre, about one hundreth of the width of a human hair. The company says this opens the way to memory chips holding more than 64 megabits of information.

IBM is using a synchrotron to make the necessary X-rays. The synchrotron is a nuclear science tool used to accelerate electrons to high velocities. When the electrons strike a target, X-rays are emitted from its surface, IBM is utilising these in a specially designed unit clamped to the big synchtotron at Brookhaven National Laboratory in New York.

Future work is expected to use a more compact but powerful synchrotron under development at Oxford Instruments in the UK.

IBM believes it is the first to devise experiemental production plant that will deal with the multiple exposures of X-rays needed to build up the layers on a chip's surface.

PC Trolley from MDS

MDS Industries, manufacturers of custom-made omputer and office furniture, has unveiled its 'Personal Computer Trolley', aimed at providing more flexability of movements for PC users, both in the office and at home.

British-made from rigid tubular steel section, the PC Trolley can carry VDU, printers, processor, keyboard and listing paper.

It comes supplied with a 4-way power board to accommodate the peripheral power requirements, and also four castors (two lockable), which enables easy passage through any standard doorway and simple access to printer and paper feed. It is also fitted with a handle — a feature not commonly available on standard PC trolleys.

The design and dimensions of the Trolley allow it to be pulled over any standard height desk or table, which provides users with greater mobility, both in the office and at home. The MDS PC Trolley measures 27" wide, 30" high and 30" deep.

Contact: MDS Industries (UK) Limited, Factory No.1, Ebberns Road, Hemel Hempstead, Herts HP3 9QS.

Wrist Paging

American Telephone and Electronics Corporation (AT&E) of San Francisco, which has been working with Plessey in the UK and Seiko of Japan says it has completed a working model of its "Receptor" — a combined wrist-watch and paging unit. Plessey has developed a complete 'frequencyagile 'radio on a chip for the project.

This pager-watch is part of the company's plan to introduce a paging system that would allow the Receptor to be used anywhere in the world. Paging signals will be sent from existing broadcast transmitters. AT&E says it is now completing the network in the US and is "working with other entitles in other countries."

A caller will use any telephone to connect with the nearest computerised clearing house and leave a message. The clearing house will contact the appropriate transmitters to send out paging signals (at the same time as the broadcast programs). The called party's Receptor will then show a short message ("call the office" for example).

Another feature is that each Receptor has precise moments at which it can receive, and remains synchronised with "time slots" in the transmitters. Each Receptor's slot repeats at intervals and it switches itself on at precisely the right time, receives any message addressed to it, and switches off. Since it is consuming power for such short periods, its tiny watch battery will last for to three uears. The company says the system can accommodate over 2bn Receptors.

Clock with Sony Diskettes

A FREE quartz world-time clock, with traveller's alarm, is offered with every order for ten boxes or more of Sony diskettes from Action Computer Supplies. The clock, which is not much larger than a credit card, shows the time in 19 major cities, plus GMT and UK time. It is supplied complete with battery and plastic carrying case.

Action says it has the full range of 5.25in and 3.5in Sony diskettes for next day delivery at discounted prices. Examples from the range are 5.25in, DS, DD, 48 pti diskettes at £10.25 per single box of ten, reduced to £7.29 when included in orders totalling over £100.00, and 3.5in, 1.44/2MB Micro Floppydisks at £46.90 per box.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx HA0 1WL. Tel. 0800 333 333.

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ISS from Electric Dreams

Mediagenic's Electric Dreams label is challenging you to Test your skill and wits with a shoot'em up/strategy game. Incredible Shrinking Sphere put you on the surface of the strange planet of Sangfalmadore. You are in the midst of the notorious Sphere Training Corps, where they deadly Sangfalmadore Run exists.

New recruits are put through their paces, in an arena that provides a test of speed, strategy and reflex responses.

Due to unexpected seismic activity on the planet's surface, the run has now become too dangerous and declared out of bounds. Unfortunately, the Colonel-in-Chief Matt Ridley, a frustrated desk bound officer of the Sphere Corps Elite, decided to make a desperate attempt to complete the hazadous maze.

Ridley has become trapped somewhere in its depths — and you have been chosen as the unlucky recruit who must go in and rescue him. Electric Dreams says ISS has 8 levels, each subdivided into 4 tiers, with access between each tier. Fighter sphere changes size and weight throughout the mazes. Mazes filled with assassin spheres, traps and prison squares. The velocity of sphere is directly affected by its size and mass, which are variable throughout the game.

Ikari Warriors Company link with De Gale

SNK, the Japanese arcade giant, has appointed De Gale Marketing as its European to handle the company's interests in the computer industry.

At present SNK, who developed one of the most successful arcade games of all time, Ikari Warriors, are involved in the computer industry through the licensing out of their titles to software houses and through the sales of Nintendo games. De Gale weill be handling all these aspects of SNK in Europe.

Commenting, Luther De Gale said "SNK have not made nearly the impact upon the computer industry in this part of the world as they have in Japan. We intend to correct this."

Hitachi's LC Colour Portable

Hitachi has showed what is they claim the first colour LCD display laptops.

The 6x4-inch backlit panel reportedly has a 640x200 resolution, but was demonstrated running a text-based application. Its graphics performance is therefore still unknown.

A Hitachi spokesperson said the display will be incorporated into both battering and mains powered portable.

At present 8086-based laptops with a 30Mb hard disk. Currently price, availability and technical specifications are unknown. One corporate observer said, "I discounted the need for colour in a portable until I saw this — it's brilliant."

Fake Disk scare dies down

SJB Disks Ltd, the UK distributor for the new Commodore brand diskettes has taken steps to calm the scare caused by cheap counterfeit copies discovered on sale in London's West End.

Steve Burke, managing director at SJB, commented: "Our evidence is that these sub-standard disks in fake Commodore packaging is just a localised problem and we have assurances that it will be eradicated."

SJB has already made exceptional sales of the new diskettes in just six weeks and expectes to sell over 2 million units in the first year.

Loretta Cohen, joint managing director at Lightning Business to Business, a distributer for the disks, looks foreard to big sales, she said: "SJB has taken a new approach to diskette marketing and supported the project in a most professional way. The pricing is right and SJB has designed an excellent marketing package."

Genuine high quality Commodore diskettes will only be available through official Commodore distributors.

Contact: SJB. Tel: (0509) 610333.

Speak, O Computer!

LOGICA, the UK computing systems house, is to lead a European research project aimed at allowing telephone users to address computers and other remote systems over the telephone and receive information in plain language.

The project is called Sundial (speech understanding and dialogue) and was approved at the end of July by the European Commission for the second phase of the Esprit programme, a European high technology co-operative scheme focusing on information technology.

Logica will co-ordinate the work of 12 partners from the UK, France, West Germany and Italy. The five-year project, involving 170 man-years of work, will be Europe's lagest collaborative venture in speech technology.

The systems developed are planned to have a vocabulary of 2,000 words, which is greater than existing systems. Logica has achieved a leading position in this area and in 1981 made one of the earliest announcements of a speech recognition system (called Logos), based on work carried out at the UK Government's Joint Speech Research Unit.

Keyboardless

Scenario in the U.S. has created Dynabook a portable PC that operates without a keyboard. Instead, all input is made via a touch-sensitive, backlit display is true black on white and can emulate double-scan CGA and 720x348 Hercules graphics standards with four grey shades. The screen is detachable and is connected to the 14-inch square system unit by a coiled cord.

The DynaBook comes with DOS 3.21 on a ROM, a 10MHz 286 processor, 640Kb of RAM and the usual ports, including output for a conventional monitor and input for a PS/2 compatible keyboard. In additional to the 3½-inch 720Kb floppy, Dynabook boasts a High Sierra-compatible CD ROM drive by Hitachi.

A 20Mb Winchester is optional. The 16 pound DynaBook is connected to the mains by a 12 volt DC external power supply. A six pound, three hour lead/acid battery pack is also available.

Dynabook costs $5,000.

Tomcat from Players

INTERCEPTOR are to release Tomcat for the C64, Amiga and PC.

Tomcat places you in the cockpit of the powerful F14 Tomcat fighter, wreck havoc across 6 levels, using air to air, air to sea, and air to ground firepower, to destroy enemy tanks, ground installations, gun boats and helicopters. Each level culminates a head-to-head confrontation with an awesome mechanoid adversary.

It features Interceptor naturally claims progressive weaponary, explosive sound effects, breathtaking graphics, and compulsive gameplay.

Fresh Commodore 64 version, the programmers, Digital Light and Magic, promise full colour scrolling, additional ground installations and a special sound-track, C64: £9.99. 16 Bit: £14.95.

Microchase over the sticks!

WHEELE Software is releasing Microchase a new computer-based 'expert system', designed specifically to find winners in Steeplechase races.

Microchase says Wheeler Software has over 60% winners in all races analysed by the program in 1988.

Microchase will only advise a selection when it is satisfied that the horse also have 'conditions' (going, distance, course and weight) in its favour, enabling it ti reproduce its best (i.e. winning) form.

Microchase is available on cassette for Commodore 64/128, price £29.95 and on disk for Commodore 64/128 price £32.95.

Horror Movie in Outer Space!

Electronic Arts is releasing of Project Firestart, a game they tell us that "plays like a science fiction, horror and suspense movie, complete with movie animation, with close-ups and fades and a musical score that increase tension and excitement."

Operation Firestart begins on February 13, 2066, aboard the research vessel Prometheus. Financed by the System Science Foundation (SSF), an agency of the United System States (USS), the project's goal was to produce strong, durable laborers capable of helping Belters mine titanium and iridium on selected moons and asteroids. Although first generation genetic reshaping was extremely hazardous, it was allowed because the geneticists involved were required to follow strict safeguards guaranteeing tight control over the experiment's end product. But the Prometheus no longer responds. The safeguards must have been breached. If they have, Firestart is out of control. The player has been assigned by the SSF to clean up the mess.

That's as much as we know so far! It could be great — or it could be terrible. It could be anything! Watch this space for further outrageous claims — and maybe even the truth!

C64 disk £14.95.

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COMPUTERS WITH WHEELS

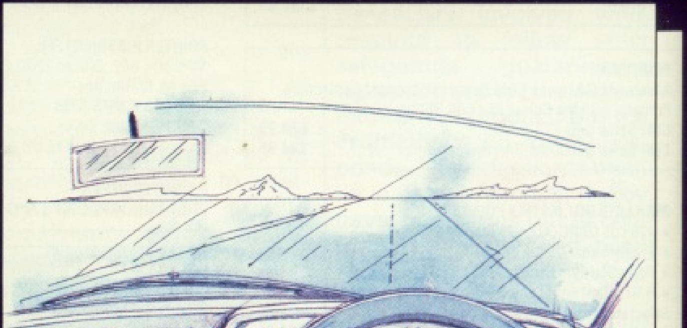
PART 2

In the January issue of CCI, we looked at in-car navigation systems that employed various kinds of data storage. One of the most sophisticated systems of this type under development is CARIN by Phillips.

This system could be in our cars as early as 1991 using the increasingly popular compact disk as the data storage. To get things into perspective a CD can contain up to 600 megabytes of information which is enough to hold the text of the Encyclopedia Brittanica twice over! In map terms, there is enough space to hold the digitally-mapped details of all major roads in Britain in just half the surface, with enough room left over to include tourist attractions, a few thousand hotels and urban street names plus other relevant information.

CARIN at the moment consists of a full size PC keyboard, a specially adapted CD player and a monitor that can show road networks in little less than Ordanance Survey details. The system will change though and may replace the map with a simple display that will show the next turning needed, backed up by a voice synthesiser that will give spoken instructions for drivers unable to look down and away from the road at an inconvenient time (see illustration). The system is designed to be very user friendly and all a driver need do is punch in the details of the intended journey and the system will then be activated. This system will also fit in with a similar road instruction system being tested now that updates traffic information in jams etc, and passes it to the driver from transmission points on the roads. Full instructions are provided as the journey proceeds with the program registering the passing points and the speed of the vehicle. It then becomes a series of 'next street on the left; turn right at traffic lights' etc.

The CARIN system also has enormous potential for fleet owners and road haulage trades and looks set to be the standard that everyone will follow.



HOW THE CARIN SYSTEM MAY LOOK IN OPERATION

CARS OF THE FUTURE?

There were very many prototype cars at this years Motor Show at Birmingham that carried an emphasis on electronics and computers. Here is a quick rundown:

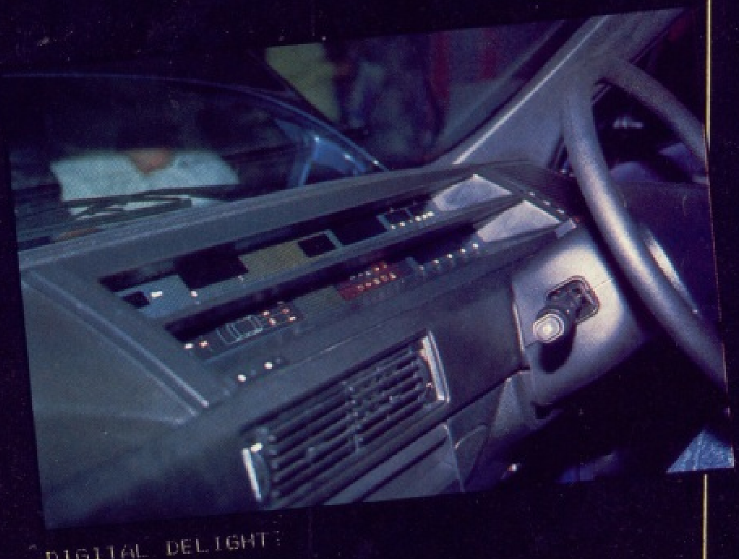
AUDI had a very weird 2 seater prototype which reminded me of the Batmobile. It had a very sophisticated door entry system which used a credit card type of electronic key. It even had automatic computer controlled hydraulic jacks in case of a wheel change!

IS THIS A CAR?

IT MUST BE A PRETTY BIG PERSON GETTING OUT OF THIS!

CITROEN were showing off one of the most attractive cars of the show. It had two sets of doors that opened in opposite directions that allowed very easy entry and exit out of the vehicle. This car also featured a HUD (Head Up Display) instrument console, which is clearly the way all visual information is moving, as in the most recent aircraft design.

FIAT'S new Tipo featured an all electronic display in its top of the range model which is a first for low price small cars. It was interesting to see this luxury car element coming down market.



DIGITAL DELIGHT!

ISUZU, VERY FLASH CONCEPT CAR...

ISUZU showed off their concept car — the COA III which is turbocharged, intercooled and features the NAVI computer-assisted transmission and electronic 4 wheel steering.

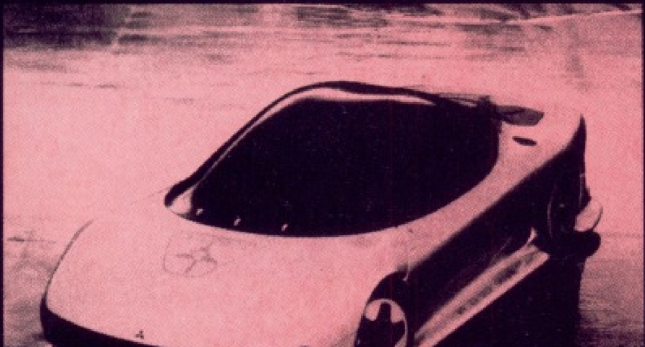
cont. on next page

continued from page 19

THE VERY SLEEK LINES OF THE ROYALE...

INTERNATIONAL AUTOMOTIVE DESIGN had several concept cars on their stand but the one that will appeal to CCI readers is the Royale which was really very special. Its electronic features merely included front and rear telephones, fax, a PC and the CARIN navigation system plus TV for the rear passengers. A totally mobile office!

MITSUBISHI MOTORS featured their HSR (High Speed Research) vehicle which is computer designed with a dray coefficient of just 0.20 CD (remember how Audi used to make a fuss over 0.30?) and can travel in excess of 200mph. (Don't tell me where!)



MITSUBISHI'S VIEW OF THE FUTURE...

COMPUTERS WITH WHEELS

PART 2

SUBARU'S centerpiece was the Estremo F624 which featured computer controlled active air suspension, 4 wheel steering and electronic remote control automatic transmission.

TOYOTA showed their FXV II which is supposed to combine the ultimate in safety, with comfort and economy (so they say). It was packed with mysteriou-looking electronics and computerised goodies. I say 'mysterious' because Toyota refused to divulge what any of them did, so watch out for this one if it comes on sale and if you like electronic gadgets (of course you do. As a CCI reader you are already into them!)

VAUXHALL had a very big stand that featured the all-new Cavalier which although from the outside looks quite modest, does have a lot of electronics and computer controlled systems. The car was actually designed on the £2.5 million Cray super-computer that has a memory of 124 billion characters! (just a bit more than a 64). The Cavalier may not be as cheap as the Fiat Tipo but it will undoubtedly sell more worldwide. Its many electronic devices include automatic window-closing when the doors are locked and a complete engine management system. As a car that will clearly gain mass-market acceptance, it is making available on a much wider scale than ever before electronic-computer controls and systems for the ordinary car-buying public.

There are many developments taking place in the 'computers on wheels' field, especially in the luxury car range like Aston Martin, Jaguar etc. As is obvious from the Tipo and the Cavalier, the research and development spreads down the price ranges. 2 or 3 speed windscreen wipers used to be on high priced cars, now they are standard equipment. The computer and electronic revolution is making real progress in the automobile world for economy, safety and comfort, and what we saw at the Motor Show 88 is just the beginning.

Having completed his brief look at the concept futuristic cars at the Motor Show, Rico Gusman climbs into his clockwork 3 wheeler and hurtles away at 15mph into the brightening dawn of a new electronic day. Brooommm!!!

R.G.

FONTPACK1

Geos Font Pack 1 provides you with 20 additional fonts for use in GeoWrite and GeoPaint. These additional fonts, combined with the six from your original GEOS disk, will allow you to generate a fantastic array of high quality printed output. For example this review is written completely with GEOS to show how good they are.

Boalt 24pt is big and bold.

Bowditch 24pt looks like a great typeface.

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Durant 18pt more of your old fashioned serif typestyle.

Elmwood 18pt super elegance, quite a hit with the others but remains aloof.

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FontKnox 24 impressed ?

Harmon 20pt is one of my favourites.

Hearst 24 is just one of 4 type heights available.

Leconte 18pt sounds a little French but makes English great.

Mykonos 24 created just for you.

Ormond 24 , square but still modern.

Putnam 24pt the write stuff for style.

STADIUM 24PT WILL NOT FLAG !

Superb 24 a typeface you'll love.

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FONTPACK 1 is available from: 18 High Street, Worcs. WR10 1BG. Price 16.95
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PUBLIC DOMAIN 64

Anyone who reads U.S. computer magazines knows that public domain and shareware disks for the C64 and C128 are widely advertised in North America. And in this country owners of IBM machines and their clones; of the AMIGA, and the ATARI ST, can order this type of inexpensive software by post, from advertisers on this side of the Atlantic. But British owners of the 64 and 128 computers are less well served. Indeed I do not remember having seen any P.D. or shareware disks for those machines advertised by dealers in the U.K.

Until the other day, that is.

Kingsway Computer Services (140 Rushdale Road, Sheffield S8 9QE; tel: 0742-588429) is offering C64/128 Public Domain software. They promised their lists in return for a stamped addressed envelope. I wrote to them and more or less by return of post received their 9 x A-4 page catalogue.

My first reaction was disappointment that '64/128' meant 64, or 128 in 64 mode. What is the point of upgrading to a 128 if dealers behave as if the 64-mode is all anyone ever uses? When the disks arrived, they were accompanied by a new catalogue and a friendly note saying: 'See pages 16 and 17 for 128 only disks. CP/M disk available soon! Hope these help to alleviate your disappointment with the last list!!

The first 64 lists covered seven categories: (i) Business and Utilities (ii) Utilities (iii) Education (iv) Music (v) Art Shows (vi) Adventure Games and (vii) (other) Games.

Now Art Shows and Games are not my cup of tea, and it is far too late in my day for anyone to educate me. So I ordered a selection of disks from categories (i) (ii) and (iv).

First, the vital statistics. The cost of each (5.25 ins) disk is £2.99 and that includes first-class postage and VAT. If you order 10 at any one time you can choose one free disk.

What do you get for your money? In the case of those I ordered, you simply get the disk: no instructions, no list of contents, though it is true that the catalogue gives details of the files on each disk. The average Business and/or Utilities disk contains about 30 items.

The music disk (MUS1: SID/PIC 1) contains the SIDPIC program itself plus no fewer than 59 tunes! These would take too long to list, but they include excerpts from familiar classical works like Bach's Brandenburg Concerto No.4, and a Prelude and Fugue; a Haydn Keyboard Concerto; the 1812 Overture, together with popular hotted-up versions of others, like 'Hooked on the Classics' and Beethoven's Fifth Symphony (Disco version). At an even more popular level are items like 'Entertainer'; 'Aquarius'; 'Blowing in the Wind'; 'Annie's Song' and 'Fly Away'; and the theme music from 'James Bond', 'Pink Panther', 'Close Encounters of the 3rd Kind', and 'Chariots of Fire'.

Once you have typed LOAD "*",8,1, and then RUN, you see a colourful title-screen, informing you that you can use this in conjunction with word files, and Koala/Doodle picture files. No explanation is given and when you hit a key to read the directory, the options you are offered make no reference to words or pictures. Perhaps owners of the Koala/Doodle programs will know how to use this facility. However, for the unskilled, like me, it is possible to follow two basic routes: you can either press F3, when every one of the tunes listed on screen will be played in succession (you can always end an item by pressing '*'); or you can use the cursor to select which tune you want to hear. Whilst it is playing, the three 'voices' are represented on screen by three animated notes which move up and down the lines of a music manuscript. This is the nearest thing yet to your own jukebox. You may suspect that I am enthusiastic about this. I am. For just under £3 it is a genuine bargain. (But what can you do whilst your C64 is pretending it is a trio? Go out and buy another. Then you can prgram whilst listening to this beautiful, electronic. How did Bach guess, by the way, that computers would suit his compositions better than anyone else's?)

The Music Disk is easy to operate from the screen prompts. This is not always the case with the other disks. Since the names of the programs are not always exactly as listed in the catalogue, one has to list the disk directory first to see what the disk contains. On those I received there were no menus. So sampling the programs soon became a little tedious as I had to list the directory on screen each time (in 64 mode) so as to be able to select a program for loading.

Two comments first, *in actual use* you would not be flicking from one program to another like a hepped-up butterfly. So in practice, this disadvantage would be very slight. In any case you could prepare a back-up disk and apply to it a menu-making program (there is a good one on Evesham Micros 'Dissector' disk). Second, the Utilities Disk I ordered (UTIL1): has a short program on it called 'Tiny Director'. When I tried it I found that its purpose was to print out a disk directory. It will go on doing that as long as you insert disks and ask it nicely. So it was the work of less than a minute to obtain printed disk diretories for each disk.

Before I say anything more about individual programs on the disks, let meet state that the best way to approach this software is to treat it as a lucky dip. Not entirely, of course, because the program titles in the catalogue give you some idea of the contents of each disk. Pick one which sounds as if it has something to interest you. Then buy it and enjoy a happy hour or two sampling the wares.

I cannot say that every program behaved perfectly for me. I found, for instance, that even if I typed NEW after

continued on page 24

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continued from page 22

I had finished with a program, I often encountered trouble when I had loaded the next program. When it was asked to RUN it gave out 'SYNTAX ERROR' messages. Usually if I turned the computer off and on again, and reloaded the reluctant program, all was well. However, I did encounter an error in one program which persisted. Indeed when I listed the offending line, it seemed even to my inexpert eye as if the syntax was wrong. I tried one or two modifications but so far have not cracked it.

So (if you are no more of an expert than I am) you may run into some trouble. I decided that the way to approach a glitch is to begin by assuming that the program probably doesn't have a bug in it, and the fault is in some way mine. When it persisted, then I put it on one side for the moment. In the meantime I comforted myself with the thought that if I managed to get from it only three items to add to my armoury, then the disk had more than justified itself . . . at less than £1 a time the three programs *must* be worthwhile. My guess is that you will get many more than three per disk.

There is (inevitably perhaps) some element of duplication not only between the various disks but even within each disk.

For instance, I tried a simple database on Disk BUS1. I saved a few entries and a little later on, tried to reload the program and read the entries (saved to a work-disk). I tried "DBASE.C" but it looked nothing like the program I had just been using. So I tried "Mini Filer". That looked even less like it. When first testing it, I had used the time-honoured method: entered some addresses. Perhaps I had been using a program called 'Addres Update'. But that wasn't it, either. Could it possibly be 'Program Directory'? No, it wasn't.

This shows how database-type programs proliferate on that disk. (In fact my inability to find the program was not due to the arrangement of the disk but to forgetfulness on my part. The program I wanted was in fact called 'Data Master 1084' and it is not on BUS1 at all but on UTIL1. In fact 'Data Master 1084', within the limits it sets itself, is good value. It has no search facility (though you can view the records) but adding and altering and saving and loading are all easy. Each file can take up to 12 fields. You can set the program to print mail list (i.e. single label form) or one record a page, or a listing. It was with the latter that I ran into trouble. Of course, its use is limited. It is no substitute for SUPERBASE. But not every collection of data justifies a powerful program. This can print out the records for you, and you can easily scan the list.

UTIL1 has several useful and interesting items on it. Apart from the 'Tiny Directory' already mentioned there is: a disk directory which enables you to load the titles of files from the disk and then put them in categories so that you can search for the sort of item you require (this has a facility for 'printing' either to screen or printer); a program called 'Tips', written for the beginner, and designed to initiate him into the mysteries of changing screen colours, placing print in specific places on the screen, etc; another called "DOS" gives several useful facilities like formatting new disk, copying file, renaming file, validating file, erasing files, writing menu file (a catch here: I thought it meant making a menu of items on the disk but it means writing DOS to that disk so that it can be called up by loading "MENU". I should have guessed from the name, but I was hoping to find a method of making a menu.); 'Finance Calc' (the sort of program that finds the present value of an annuity if you tell it the interest, period, capital, etc); for bibliophiles there is "C64 Book Sort" (though I still haven't worked out how to search it). 'Library Manager' (which sounds like an alternative book sort) seems to be a simple form of word-processor.

> ***"Innocent enjoyment may be found in puzzling out exactly how you are to proceed with some of the programs when you have loaded them."***

Two programs on this disk feature Calendars. One of them will print you an A-4 sized calendar for any named month in any named year; the other will print, in the same size, a calendar for the whole of a chosen year. The first worked all right for me with a STAR LC-10 in Commodore mode, though I thought at first that something was amiss: the very large printing in the heading was not easy to read as the sheet emerged from the printer. The second program kept freezing on me: perhaps it couldn't negotiate the Wiesemann & Theis buffer installed between C128D and printer.

"Checkbook C." is another nice-to-use little program on this disk. It keeps track of your bank account for you. You can enter deposits, withdrawals, bills, cheques, saving them all to disk. It will then give you the balance, or list transactions (all, just recent ones, or selected ones); this can be done on screen or on a printer. The lack of instructions caught me on the hop first time round. When an entry has been typed in, the legend 'Ready to save? Y/N' appears at the bottom of the screen. Knowing that I had a few more entries to make I answered 'N', intending to save them all at the same time. But that is not how it works! It asks the question merely to discover if you are satisfied with the entry you have just typed: if you are, you type 'Y'; if not you type 'N' and the whole entry is deleted and the main menu reappears, so that you can retype the entry.

Although I have mentioned the Business Disks (there were four on the original lists and I ordered all of them) I have concentrated in this article on the Music disk, and the Utilities disk. I think they are excellent value for money but I chose to review them not because they are better than the others but because their contents, perhaps, are more unusual. Even so, I have only skimmed the surface: after all, there are 25 items on the UTIL1 disk and I have mentioned less than half of them.

Should you write for *Kingsway's* lists? Whatever your interest in computers, whatever your ability in programming, I am sure you will find *some* disks in these lists which will attract you.

If I am right, order one or two and look forward to hours of enjoyment. Here and there a disk bears a program for tape (don't ask me why) so you can amuse yourself by trying to convert it for disk use. Again, those with 128s can kill an hour or two by converting some of the programs so that they ca be used in the 128 mode. Innocent enjoyment (as hinted above) may be found in puzzling out exactly how you are to proceed with some of the programs when you have loaded them. But most are user-friendly, and I haven't the least doubt that you will be pleased with your purchase.

When you have picked your favourites you can copy them to separate disks. Some of the utilities could all go on one disk and be made accessible by 'menu'. Others, where data has to be saved, could be allowed a disk to themselves. For instance, the checkbook program mentioned above occupies only 69 blocks, so if you copied it to an empty disk, especially on a 1571 or 1581 drive, you would have loads of room for data on the same disk.

I cannot remember when I last felt so sure I'd got a bargain through the post.

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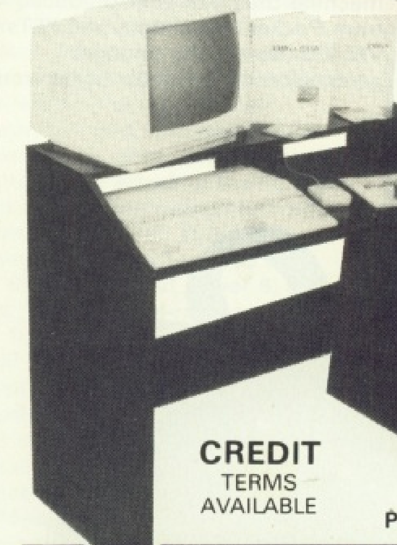

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Fresh off the plane from Canada. Mark Smiddy reports on one of the largest Commodore specific shows ever held – the Sixth Annual World of Commodore.

Like the USA, the most noticeable thing about Canada is the scale of everything. They have the biggest lakes, the longest street, so why not the largest computer exhibition? Well, World Of Commodore held in Toronto's sprawling International Centre must surely rate as one of the largest and most spectactular public computer exhibitions anywhere.

By far the [illegible] area of the hall was , of course, dedicated to stars of the show — Commodore Canada. And as is usual at these events, the hardware thirsty public were not disappointed. On display at what could only be termed the Commodore village were lots of rather strange and somewhat antiquated hi-tech hardware. For the Show also marked CBM's 30th anniversary as equipment manufacturers. They had brought along an example of just about every machine they had ever produced — from Pocket Calculators and PETs to VIC 20s. Some, the younger generation of computer users would

WORLD OF COMMODORE 1988

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never have heard of; many extremely rare examples of vintage hardware — unfortunately not for sale.

> *"Commodore reaffirmed their attack of the PC clone market by demonstrating their new IBM-bashing PC40-III."*

Alongside the old, the thirst for newer, faster, more powerful machines did not go unquenched. No matter what your poison in hardware, Commodore — or one of their developers — had something new and exciting to offer. Commodore reaffirmed their attack of the PC clone market by demonstrating their new IBM-bashing PC40-III. This contemporary beast features an 80286 CPU running at either 6, 8 or 12MHz, 1Mb internal ram, a single 5.25", 1.2Mb floppy drive and an internal 40Mb hard disk — plus VGA graphics as standard: and being supplied with MS-DOS 3.3 it can run almost all PC software. If that were not enough, Commodore have managed to give the machine a very small footprint — especially when compared to other AT clones, which looks likely to see it find favour with the small businessman who is pushed for space — but still needs power.

> *"Commodore have sold so many in the last year, over 2 million worldwide — twice as many 64's as in any year since the machine's release — any plans regarding discontinuing the machine's production have been shelved indefinitely."*

Of course the Amiga, Commodore's favourite child, received a few enhancements just in time for the show. The most notable being the new A590 hard disk/RAM upgrade for the baby of the range — the Amiga 500. This new unit features a 3.5", 20Mb mini drive and room for 2Mb of RAM in the case. The most surprising thing about the A590 was the size — less than four inches wide. And because it plugs directly on to the expansion bus of the A500 (on the left of the case) it takes up very little extra room on a desk — so you hardly

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WORLD OF 1988 COMMODORE

notice it is there. What you do notice though, is the fantastic freedom offered by the capacity of hard disk that used to occupy a large table, and the amount of RAM that few of us ever dream of.

Although Commodore have now largely abandoned the 64 as an entity in its own right, the admiring public will see it live for a very long time yet. In fact this seasoned campaigner has apparently found a new lease of life, although there have been rumours to the effect the company had plans to discontinue the machine. Commodore have sold so many in the last year, over 2 million worldwide — twice as many 64's as in any year since the machines release — any plans regarding discontinuing the machine's production had been shelved indefinitely.

Rumours, founded or not do of course have a tendency to feed price cutting to ludicrous levels in some cases. No members of the public were heard to complain though, with many leaving the hall pushing trollies full to the brim with 64/128 hardware and software add-ons. In fact, with the launch of the Hearsay 1000 speech synthesis and voice recognition system from Hearsay Inc. many C64/128 users may well be wondering what all the fuss was about over the Amiga's built-in speech — as one of its chief selling points, second only to the superb graphics. But there is still fierce loyalty for the 64/128 models in the North American users — one Commodore Computing International told us: "I have a Commodore 128 and it does everything I want it to. The Amiga? I wouldn't use that thing as an anchor for my yacht!"

"People," he calmly announced during one session "are not computer users — they're computer victims."

There was also a mass of software on sale for the CBM 8 bit machines — much of it 'serious' style material in education etc that has never reached Europe. And Toronto, of course, still has the largest CBM users group in the world, over 4000 members.

During the show, there were a multitude of hour long seminars for those with the stamina, it was possible to spend an entire day listening to experts tell all you needed to know about your computer and how to get the best from it. One of the most notable and best known speakers was of course the Commodore guru, Jim Butterfield. Every talk he gave was filled with a variety of witty comments as well as some very useful advice. "People," he calmly announced during one session "are not computer users — they're computer victims." (We all know that feeling, don't we?)

Overall, the sixth annual World Of Commodore was a terrific place to be if you wanted to pick up a bargain for any Commodore machine — by that I mean PET, VIC-20, C64/128 and, of course, the Amiga. Similarly, if you just wished to learn more about computing in general — your needs were adequately taken care of. Unlike the abysmal London Commodore show of a few months ago, there were no crushes of people and very little noise, most people were extremely polite and, interestingly, probably well into their twenties. They also showed considerable enthusiasm for the only European magazines on show — *CCI* and *AUI*, this one was well organised and well constructed. Well done everyone concerned.

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ROLE PLAYING GAMES

A NEW VENTURE

Peter Gerrard — having completed his series on Artificial Intelligence — has been inspired by CCI's sister magazine to look into the fast growing world of RPG,Role Playing Games. Not content with just playing them, he explains in this the first of his new series, all you need to know to practise your strength, your charm, your stamina and your programming skills.

I WAS reading an article about role playing games some while ago, in that one of the principal pleasures of playing such games was that "there's always something to do". Extending that sentence a little gives us "There's Always Someting To Envisage Doing", which leads to the arconym,TASTED.So, we could say of role playing games that once you've tasted them, ordinary adventure games pale into insignificance.

But just as there are good adventures and bad adventures so there are good RPGs and bad RPGs. Hence the existence of Croftward's very own GM magazine, dedicated to RPGs and hopefully sifting out the wheat from the chaff, the good from the bad. If you had never played an adventure game before and were placed in front of a computer that had a very bad one again. Equally so with RPGs, so if you have never played this type of game before then do yourself a favour, buy a copy of GM, and get whatever it rates as the current top game.

Alternate Reality is a good place to start — try having one drink too many in one of the inns, for instance, and see how a drunken computer behaves! I thought the machine had crashed at first, but it was merely a mite tipsy and just getting confused over things. Quite disconcerting. Other RPGs abound for Commodore kit, naturally, like Pools of Radiance, Bard's Tale and Son of Bard's Tale (or Bard's Tale II to give it the proper title), which are all good places to begin and all excellent games that give you a good feeling for actually being there rather than just pushing keys on a computer keyboard and knowing that you can have a break for a cup of coffee any time you feel like it.

In a nutshell that is the essence of a good RPG, that it simulates reality to a great extent. Traditionally in these games there are some six characteristics with which a character (i.e. you, the player) is burdened, and these will be affected as the game progresses. How they are set up in the first place varies from game to game, some give you a random selection while others let you choose for yourself, but if the latter is the case then certain restrictions will be imposed upon you to prevent you from creating a superhero who cannot possibly fail in the quest put before him. On her, of course.

Although the nature of these six characteristics does differ from one game to the next, one of them is almost always experience. Thus, a character who survives a long time will have gained a lot of experience and will be more likely to overcome a situation that the newcomer might be unable to cope with. Just like life, you will always have some experience to start with, a sort of memory of what's gone on before I suppose, and over a period of time that experience will increase.

continued on page 36

NEWSMAKER

Bob Collyer takes a two part look at a DTP/Graphics package, which illustrates not only how talented he is but how beautiful!

Free Spirit Software from the States have in the past presented us with quite a number of very good products dedicated to the C128. The vast majority of these are of a high professional standard. Free Spirit have a reputation of producing great creative software. It will therefore come as no surprise that they have come up with a Desk Top Publishing/Graphics Package that surpasses all others utilising the power of the 128 to its full potential.

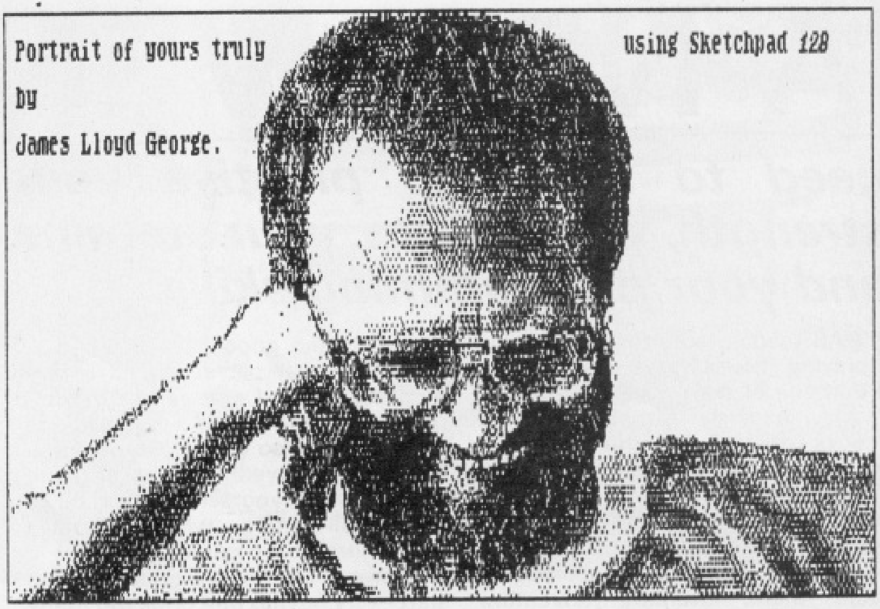
Newsmaker 128 and Sketchpad 128 complement each other as a package that will allow you to create documents, illustrated letters, news sheets, pictures, programs or anything else your imagination can come up with. Both components are easy to use and follow simple on screen menus, once you become familiar with one of them then the other is just straight forward.

> ***"The program auto-boots and it is noticeable that it utilises Basic 8 as an operating basis."***

Today there is so much choice for Commodore owners that we demand better and better software. Commodore have produced faster drives, the 1571 for example and better interfaces such as the 1351 mouse. Crisp clear 80 columns have a resolution of up to 640x400 pixels for smoother lines and clearer pictures.

I have used several graphics and DTP products over the years and as time has gone on they have grown in complexity, sophistication, ease of use and completeness. One extremely important facet of any of these is the ability of the end user to get each and every last pixel right easily. Free Spirit have given us a system that not only does that, but uses all of the best that lies inside the 128 and its related hardware.

To operate both Newsmaker 128 and Sketchpad 128 you will need at least a C128, 80 column RGBI monitor, 1570 or 1571 drive and a 1351 mouse. The earlier 128s had only 16K video RAM with a resolution of 640x200 pixels, the later 128s contain a 64K video RAM, giving 640X400 pixel resolution. Needless to say both are fully supported.



I would like to tell you firstly about the graphics side of this creative utility. Sketchpad 128. I hope that Financial Systems Software will sell Sketchpad 128 separately as I believe that it would stand on its own and outstrip almost any other graphic utility. It is a dream to use, following menu driven options you will get to grips straight away with it. The program auto-boots and it is noticeable that it utilises Basic 8 as an operating basis. Those of you familiar with Basic 8 will immediately recognise the power of its use. Some may say it is a bit on the slow side but I would argue with anyone who says that it in any way restricts the end user from producing superb results as quickly as a machine language written product.

Now to the goodies wrapped up in the menus. The ability to draw perfectly smooth 1 pixel width lines is a joy! Did you have nightmares trying to control your old joystick drawing tool? Remember spending all your time pixel editing? Using the 1351 mouse is easy. Click on "Draw", select your brush tip and paint away! If you go crazy and make a mistake then click on the main menu to "Erase", using the same selection of brush tips you are able to undo and mend your picture.

R & SKETCHPAD 128

> *"I particularly like the choice as there are several patterns that give neat effects such as halftone tints or textures ranging from 10% to 90%."*

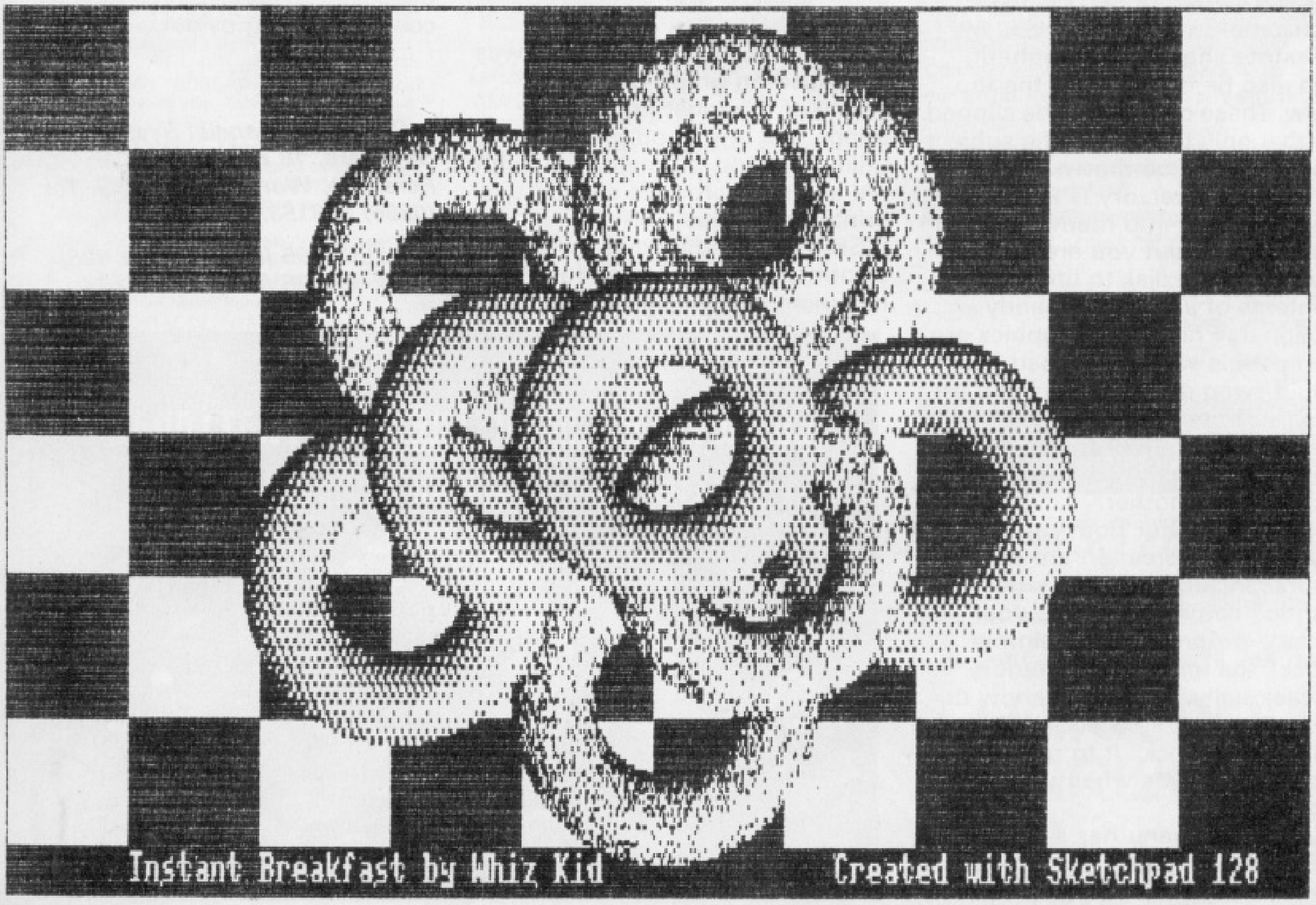
Enclosed areas can be "filled" with a selection of different patterns. I particularly like th choice here as there are several patterns that give neat effects such as halftone tints or textures ranging from 10% to 90%. This allows some nice shading to be created. Wood grain or bricks etc are also amongst your choice.

Text may be dropped into any part of your creation. There are lots of Fonts, twenty nine in all, to choose from. All of these are of a high standard of detail, not chunky at all, professionally created with a wide selection. You are allowed to use five type heights for all fonts. Click on the position you want your text to start then after each line pressing return ranges the next line perfectly beneath that of the line above. This lets you easily draw a box around text neatly if you should wish to do so. If you own one of the very sought after RAM expansion units for the 128 then fonts are transferred to it for instant retrieval.

An air brush is a tool used by most graphic artists nowadays to create the highest quality pieces of work. Clicking on air brush sprays a random pattern of individual pixels over a small area. This is extremely useful for fills, shading, shadows, adding texture or creating your own galaxy of stars quickly and with complete ease.

Each masterpiece can be drawn in any of 16 different colour foregrounds onto any of sixteen different background colours. Storage of the picture information onto disk, the colour information is also kept so that upon retrieval the resulting picture is the same colours as when you created it.

The option menu has some unique features never seen before. Here you can choose to draw using different lines thickness. Straight lines, Several connecting straight lines, individual dots or several


Instant Breakfast by Whiz Kid
Created with Sketchpad 128

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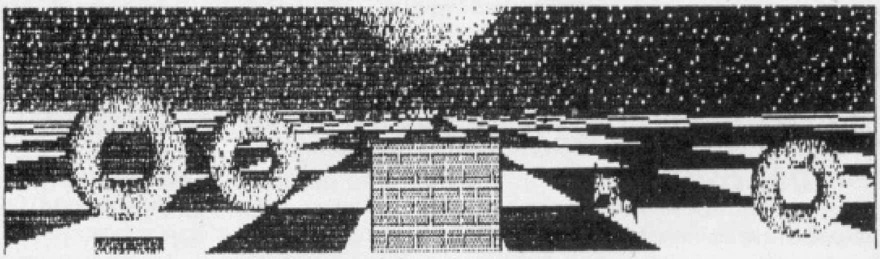
NEWSMAKER & SKETCHPAD 128



geometric shapes. It's easy to "Box" cleverly, your "Circle" of friends are super smooth. You can produce graphs using "Arcs", or use the ability to create from three sided to twelve sided shapes.

> ***"Another option is that objects can be drawn from a horizontal or vertical aspect. My favourite shape, the doughnut, can also be drawn from the top view."***

Again under the option menu you will just love the 3D Solids available to you. These solids have either texture or halftone shading options along with "Normal" or "Backlighting" these give depth and solidity to these objects. Solids available are a sphere or a cylinder or a doughnut shape. Another option is that objects can be drawn from a horizontal or vertical aspect. My favourite shape, the doughnut, can also be drawn from the top view. These objects can be clipped so that only the part of the subject you wish will be drawn.

The disk directory is loaded automatically into memory when you boot up but you are able to open another disk to utilise the contents of another. A handy option as Print Shop graphics are compatible with Sketchpad 128. I could swap disks and use clip art images from Print Shop without leaving the main program or having to transfer any files from one disk to another.

Commands for both saving and loading your creation are of course included. There is no "undo" command but as your picture progresses you simply "lock" the image into memory occasionally. If you somehow do something you did not like then you can "unlock" it to restore the picture as it was when you last "locked" it.

A gadget menu has a few more goodies. Cut/Paste, lets you take an area of your picture and store that area in memory. Paste will place that "clip" into another part of the picture as you wish. Other options let you "flip" the image upside down or "mirror" image left to right, even reverse the image to negative.

Did you wish to have a slideshow facility featuring all your masterpieces? Well, you guessed it, yes! Sketchpas has it. Slides are paused onto the screen until you click the mouse then the next pic is displayed. Owners with 64K video chips wiull delight to see the next pic scrolling in side to side, diagonally or top to bottom, adding another neat touch. 64K chip owners will also have extra editing features. A very powerful pixel editor, a grid creator, you know the kind of high tech appearance, as if your subject was produced on graph paper.

One of the most important things that any good graphics utility *must* do is provide you with the ability to produce sharply printed hardcopy.

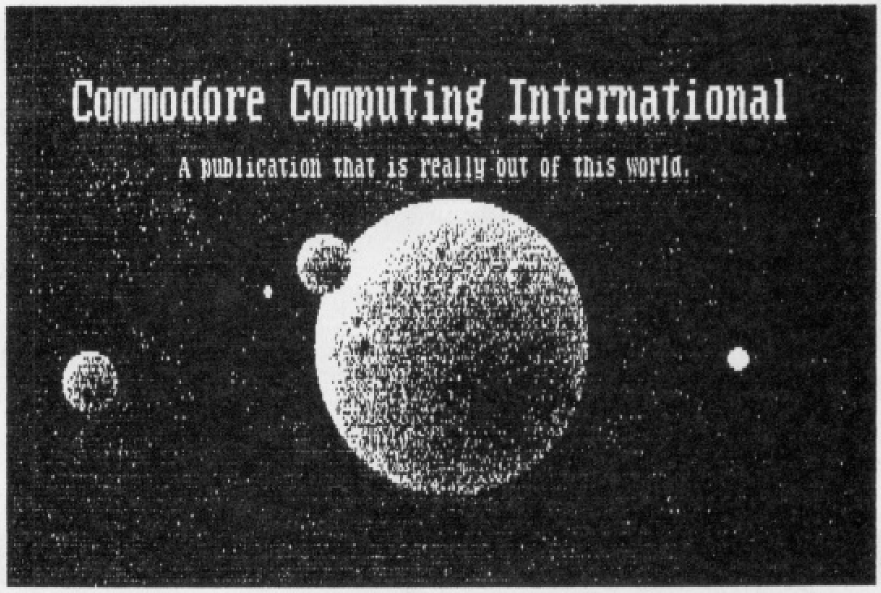
Sketchpad 128 allows for a host of printers to be catered for including non Commodore printers. The pics you see were produced on a Citizen MSP 10E/Super G combination. I hope you enjoy them. The portrait of me was drawn by my nephew James Lloyd George, he had no more than a couple of hours experience using computer graphics and came up with a portrait. I'm sorry it can't compare with the beauty of Sketchpad 128 but next month I will finish this review of Newsmaker 128/Sketchpad 128. Financial Systems Software are selling the package as a complete system but I reckon they will have a great demand for Sketchpad 128 on its own if all you want to do is draw.

Wait until next month to decide, because Newsmaker 128 gets a complete going over.

B.C.

Contact: Financial Systems Software, 18 High Street, Pershore, Worcs WR10 1BG. Tel: (0386) 553153.

Price: £34.95 (Newsmaker 128)
£29.95 (Sketchpad 128)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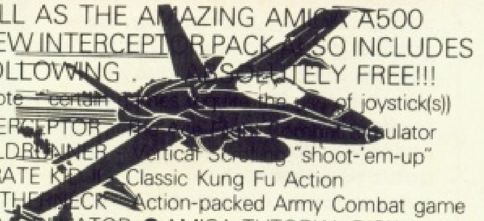

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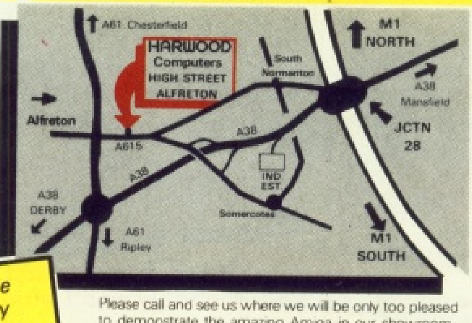

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Julia Forester takes a trip down memory lane

Anco

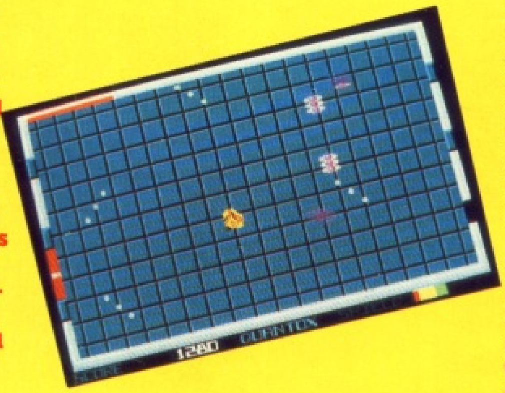
QUAN

MEGA

Ah, memories. I can remember the days when we thrilled to games like Gridrunner on the 8 bit Ataris and blasted the likes of Jeff Minter's Mutant Camels on the 64's. Yet today, with the power of 16 bit miracles like the Amiga, there really hasn't been anything outstanding. Take away complex plots, wonderful 3D solid graphics and multi-directional scrolling and what are you left with?

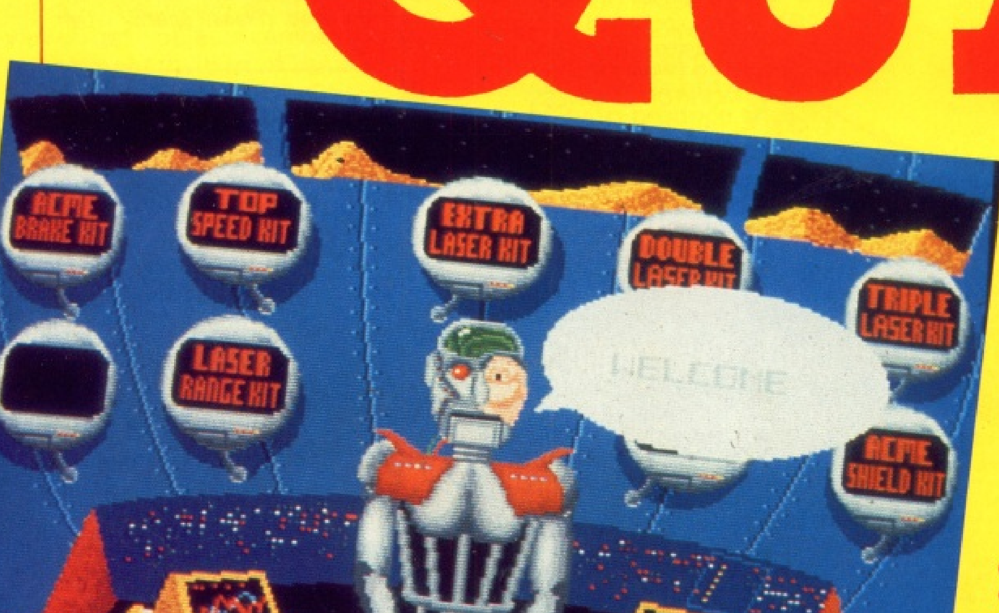
In all too many cases — not an awful lot. I'm not saying there's anything wrong with the new-style games — but why were the old ones so successful? Playability. New games get so wrapped up in themselves, they tend to leave you oggling the fantastic graphics and feeling something of an outside observer. Rather dissatisfactory don't you think.

Quantox is different. I'm very pleased to say it's one of the only games I've played recently that draws the player very much into the action. In fact, the only real problem it suffers from is you can't play it in a crowded room — because everybody will want a go, and you probably won't want to let them.

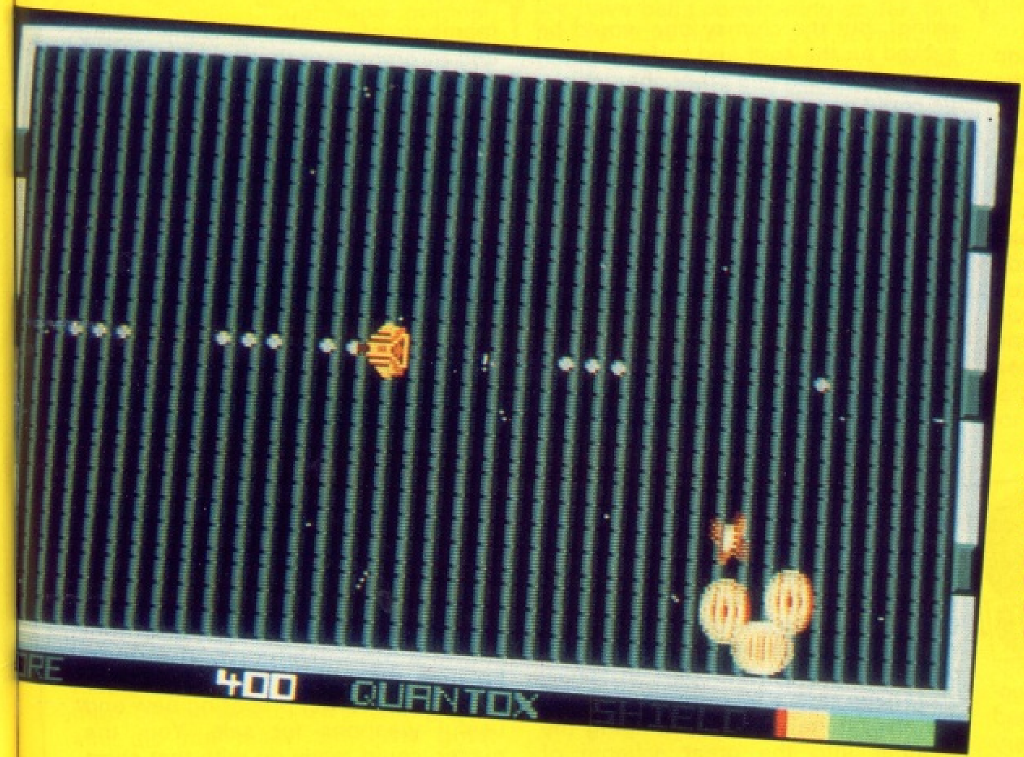


The plot goes something like this. Quantox, kingdom of the warrior queen is under seige from alien hordes. As she prepares to do battle, she knows only her superior skill and agility can win the day. As the attack progresses she must equip her ship with more deadly weapons in order to survive. Standard stuff that. But it leaves me wondering what happened to the royal army? This girl must be one tough cookie to take on the baddies all by herself.

The game itself takes place over 32 screens of almost unbelievably fast action. The main playing area looks a little like a football pitch surrounded by a metal barrier. At the very bottom of the screen is the score and an indicator showing the current shield strength. You start the game with three ships, an extra one being awarded every 10th level.



The aliens take various forms depending on their strength and attack pattern and swarm from the six doors surrounding the playing area. On early screens the patterns are simple enough with only four appearing at once. The idea is to first shoot the enemy then run them over while their shields are down. They don't shoot back, but if they ram you while their shields are up, your shield takes a battering. The



NTOX

real fun of the game comes from the way your shots bounce around the screen, in this way you can sit in a corner and blast aliens on the other side of the screen just by deflecting your shots off the barriers.

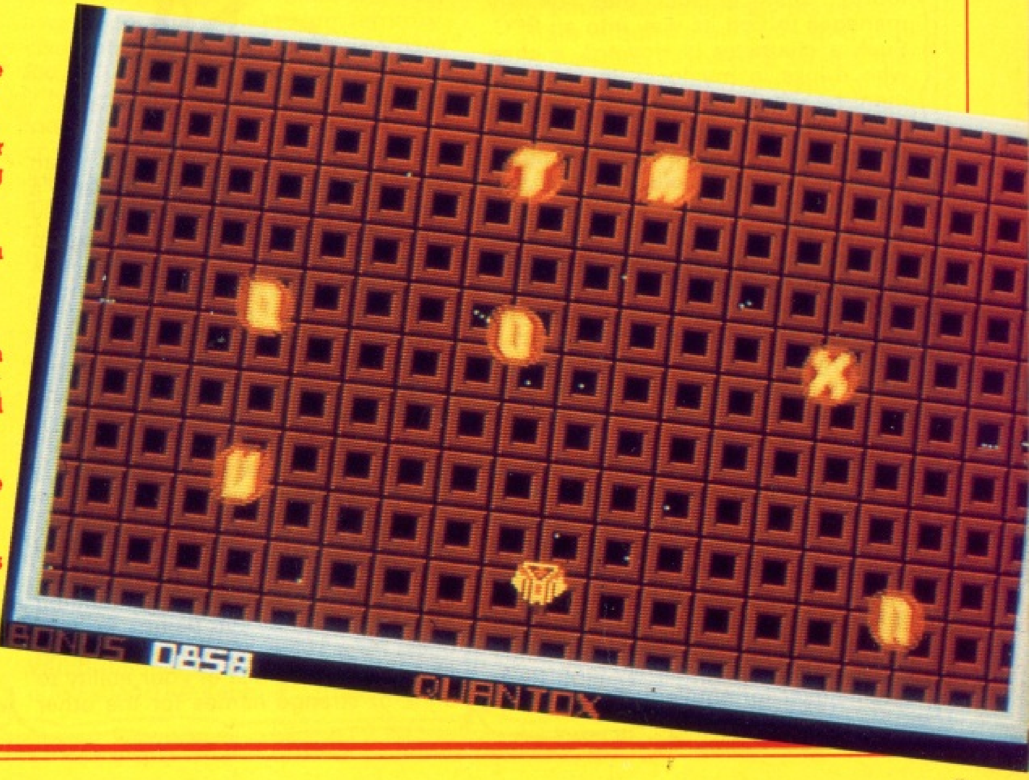
Every so often a special alien appears for a short time and, if you don't ram it first, releases an amoeba like blob of slime which homes in on you and does untold amounts of damage. Likewise, from time to time special icons drift on and when rammed give you special abilities like a mega laser, rapid fire and invincibility. Not all of these are beneficial though — some have adverse effects like brake failure, and the hilarious but deadly reverse control which causes the ship to fly completely back-to-front.

At the end of the three screens a special bonus sub-game appears.There are three in all. The first involves collecting the letters QUANTOX in the right order, not at all easy. The second involves shotting a snake in the head while it releases those homing amoebas and the third involves destroy the mothership. After each bonus screen you get a chance to nip down to the shops and pick up some of the latest weaponry to help in your quest. However, if you can't afford particular items the storekeeper gets rather rude.

All in all, Quantox is the best alien bashing I've enjoyed this side of Attack of the Mutant Camels. It's fast, furious, addictive and great fun to play. It's a pity there's no two player option. Above all though, Quantox is simple and I'm convinced it'll be a winner — well done Anco.

J.F.

Graphics: 81%
Sound: 70%
Playability: 97%
Value: 100%
Price: £14.95



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Stamina is another common characteristic, and obviously the greater your stamina the longer you will be able to go without food and water as well as without having to rest and all the problems that go with it. Like spending a nervous night in a disreputable tavern, for example. Food and water might be a bit thin on the ground, so if you have only got a very low stamina then you will probably be spending the entire game in a search for refreshment in order to keep your strength up.

2300 A.D

That is the third common characteristic, strength. Not to be confused with stamina, for the two are very different. A strong person with a low stamina will still be a strong,capable of performing feats that a weak one would be unable to manage. Lifting rocks and boulders around, for instance. Short of finding an RPG that has a gymnasium in it (now there's an idea!), it's always a good idea to have a reasonably strong character.

However, skimping on intelligence for strength will leave you with a character who can lift heavy objects while at the same time being inordinately stupid, for intelligence is our fourth characteristic that usually manages to find its way into an RPG. Such a character is Howard, a chap who drinks in my local. In an argument he would be likely to pick up a pool table and throw it at you, but fortunately he is a placid sort of chap. Doors confuse people like Howard, who behave in troll-like fashion and barge through them. Intelligent characters open them first, so a good mixture of intelligence and strength is always to be recommended if you have any choice in the matter, but if the computer dishes out the characteristics at random then it is probably a wise idea to keep trying until a suitable mix appears.

This brings us to our fifth characteristic, dexterity. A nimble, dextrous character would skip lightly over a trap and carry on as if nothing had happened, whereas a clumsy oaf would very likely fall into it. The dextrous one might be able to gain employment in a tavern and earn some much needed money (or groats, or whatever terminology the game is using), but the clumsy one would be sacked on the spot and turfed out.

This is where one other characteristic could come into play, but the sixth one is principally the one that varies the most from one game to another. An increasing number of games these days seem to be using charm, which strikes me as a good idea. Thus the sacked clumsy tavern keeper might be able to charm his way into a bed for the night, the dextrous one with money might have to pay for it. A character with plenty of charm and dexterity might be able to confuse other characters and escape from situations that would require plenty of strength and stamina in a clumsy, charmless one. The number of potential situations is virtually endless.

The six characteristics that seem to be the most common ones, then, are experience, stamina, strength, intelligence, dexterity, and charm. Food and water we have already mentioned as playing an important part in RPGs, and I have seen a few games now that are also, quite sensibly, bringing the weather into the great scheme of things. If it is raining then you will need some sort of protection, otherwise you will end up with a stinking cold, your strength and stamina reduced, and easy prey for one of the many nasties who inhabit these games. I have yet to see anyone suffering from sunstroke in an RPG, but I dare say it will happen eventually. This is all to the good, increasing the link with reality to give you that feeling of actually being there.

G.M.

Whether you play the game as an individual character, or as a leader of a band of different characters, obviously depends on the game. Here we begin to see a wavering of the border lines between RPGs and adventure games. The single character game with a mission to accomplish is more akin to an adventure, although some single character games have no such mission other than to survive and gain experience before buying the next add-on to the series of games that the ACME RPG company is selling. Games with bands of characters have little in common with traditional adventure games, your merry troop marauding around the countryside and fending off all manner of evil beings in your quest for survival. These can be great fun, as well as a test of your ability to think of strange names for the other members of your gang. Dimli Gloing and Strombrigner the Grey have been in more RPGs than I care to mention, although Grimley Doing now seems to be making his mark in one or two. And if my loyal reader from Wigan, Sandra, is reading this, how's Foghorn Leghorn getting on?

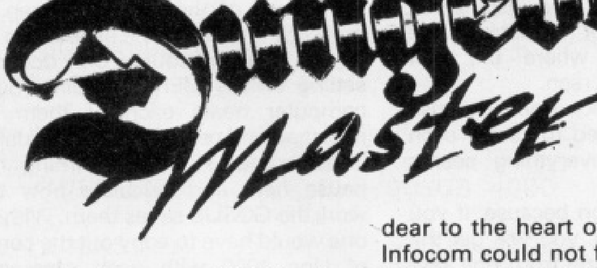
But whether there is one character in the game or a whole horde of them, one traditional facet of the adventure game is still strong in RPGs, and that facet is the existence of objects. Objects abound in RPGs, although the manner of obtaining them is usually far removed from the normal format of the adventure game. Sometimes they are just left lying around, casually discarded by the program from time to time, but on other occasions they have to be bought, and buying usually implies bartering.

This can bring on another series of problems, not least of which will probably be the absence of money. Imagine the scene: the burly blacksmith in his forge, preparing new and useful weapons for sale. You, the player, could really do with that short dagger that he has just made. Easy to conceal, quick to draw and use, you try and attract the blacksmith's attention. If he notices you at all, you will be lucky if you are not simply ejected from the smithy, blacksmiths being by and large a surly mob in RGPs. If he does condescend to speak to you, it will probably be along the lines of "what do you want, insect?" and then he will proceed to tell you what he has got, what is for sale, and how much it costs.

When you say that you would like to buy the short dagger, you will be told that it costs 500 groats (or whatever), and you are then invited to make him an offer. Entering something ludicrous, like 10 groats, will see you evicted from the premises and more likely than not you will not be allowed back in again for a very long time. Tedious when you're playing the game, but understandable from the blacksmith's point of view. 400 groats is a reasonable first estimate (always provided that you have got the necessary amount of course), and you may well end up paying something like 450 groats for your desired dagger. A saving of 50 groats is not to be sneezed at, and it also means that the blacksmith is more likely to allow you in the next time you decide to pay him a visit.

The subject of daggers brings us neatly to the topic of fighting, which seems to feature far more heavily in RPGs than ever it did in the traditional adventure game, if we ignore such delights as text-only Space Invaders in the Very Big Cave adventure. Interestingly enough, though, the original Colossal Cave adventure did feature a fighting scene. Remember that dwarf who used to leap out from behind rocks and throw knives at you? A successful hit on your part meant that his body vanished in a cloud of greasy black smoke, otherwise it was a rather repetitive input of THROW KNIFE...GET KNIFE...THROW KNIFE and so on until you finally won. Or lost, resurrection being on the cards if there were enough orange smoke left lying around.

I am pretty sure that the only reason for this dwarf's appearance in Colossal Cave was that the game itself was an attempt to mimic the enormously popular Dungeons and Dragons scenario, creating a world without a need for game masters (perish the thought!) or other participants, and, as fighting was an integral part of Dungeons and Dragons, so it must also appear in the very first adventure game. However, the dwarf that launched a thousand rip-offs was more of a nuisance than anything else, and did not really lend any great atmosphere to the game. Fighting in modern RPGs is much more like it.



What usually happens is that you get a warning of the impending appearance of some doom laden monster with a peculiar name, and then a graphic of one sort or another and a list of options to choose from. Thrust and Parry, which always strikes me as a great name for a team of barristers, the earlier-mentioned charm, where you might try and truck your opponent, ignore, hoping it will go away, run, if you can out-distance it, and if the game is up to it you could also be presented with a few choices that depend on your range of weapons. A veritable host of messages then usually appear on the screen describing the ensuing events, your strength might dwindle alarmingly if you have actually engaged the beast in combat, and the outcome is much more dependent on skill and good game playing on your part than it is on the random nature of the original dwarf in Colossal Cave.

Not all RPGs take place in the typical Dungeons and Dragons scenario that we have been considering so far, but just as in the early days of adventures being popular on computers, when most games were just variations on an admittedly colossal theme, so too are we seeing a depressingly large number of RPGs being dependent on their parent board game for ideas and inspiration. RPGs are becoming very successful on home computers just now, and it is is to be hoped that this tide of Dungeons and Dragons look-alikes will be stemmed before long.

This is not to say that variations on the traditional theme are the only sort of RPG being written, but there does seem to be a lot of them. Even the mighty Infocom, with Beyond Zork, took arguably their first proper step into the world of RPG and chose a very safe topic to write about. Rather like Isaac Asimov and his sequels, prequels and in-between-quels to the Foundation series of science fiction books (and I love 'em all), Infocom dipped their toes with a subject matter that was sure to make any fan of theirs buy the game. The Zork scenario is dear to the heart of many, and really Infocom could not fail with that one. I just hope that subsequent RPG and graphical games from them will veer away into more interesting territory. Like outer space, perhaps. Bring back Floyd!

But enough of my opinions, and a look at what we are hoping to be covering in the next six or so months. As I said at the end of the Artificial Intelligence series, we have had six months of arcade games, six months of adventures, and six months of A.I., and it is now time for something that blends them all into one vast game world. That 'something' is, of course, a role-playing game, a type of game that nicely combines all the elements of arcade, adventure, and artificial intelligence. The three 'A's, and now the first 'R'.

But you know me, never one for the obvious, and so we shall be playing a role playing game with a difference. The game will be called **Venture** and hence the title of this introduction , resisting the temptation to use Latin and call it Ad Venture ('to the Venture'), partly because of a local pub called The Venture, I must admit. **Venture** one word, will be our title.

Each month, after this introduction, the listings will grow into the completed game. Commodore listings this time, rather than the Amstrad impersonations with the A.I. series, because there is going to be a lot of Commodore 64 specific stuff for you to be typing in. It makes it slightly more inconvenient for me, producing the listings, but our loyal band of readers comes first. For those who cannot face typing in reams and reams of listing, I hope that in the next two or three months I shall be able to offer the finished product on cassette or disk, something which I must sort out with our noble director.

BATTLETECH

As with all RPGs there are some good guys and some bad ones. Among the former are Hoppers and Monkeys, among the latter are Zombies and Grimleys. Needless to say you will be able to instruct the good guys, but the bad ones are only out for death and destruction. Yours, if you let them capture you, but they will also cause havoc and devastation amongst your allies, as well as devouring your food supplies and drinking your water.

The game playing world will be a ten by ten by ten matrix, with holes to fall through and boulders to climb up to allow you to move from one floor to another. The quest in this game is to seek out, surround, and destroy the guardian of each matrix and thus gain access to the next level. A system of codes will allow you to skip through levels that you've already played.

There is quite a bit more to it than that, including all the RPG aspects that we have discussed here and a few more besides, and we shall be finding everything out in the months ahead. The most important thing to note for now is that the game will play itself if you leave it alone. That is, all the other inhabitants of the matrix have lives and minds of their own, so if you don't press any keys then you can just sit back and watch them all get on with it, which is quite fascinating at times. There is a pause feature, if you want to go and make a cup of coffee or something and don't want to run the risk of coming back to find a Grimley intent on your destruction when the nearest suitable spell is nowhere to be found.

Until next month, you read the rest of the magazine and I'll carry on programming, and in thirty days time we can come back and start getting some serious (well, not too serious) work done. Bye until then.

P.G.

On the MENU

Peter McDonald has created another program that is easy to enter and wouldput even the novice programmer in with a chance.

Sooner or later, when you have collected a series of useful facilities on one disk, you will want to be able to control them from a MENU. Why? Because, it is difficult to remember programs' names, and though it is possible to load and list the directory, using the f3 command on the 128, you then have the trouble of typing RUN alongside the name of the chosen program, deleting what follows the name, and pressing RETURN. And what do you do if you wish to switch programs? The same again?

A neat MENU lists the programs by name but puts a single figure, or a letter, alongside each; all you have to do is to type the appropriate figure or letter and the chosen program is automatically LOADED and RUN for you. When you reach the end of that program you are asked the usual 'Y/N' question about repeating it. If you answer anything but 'Y', the next line will say: RUN MENU. On the 128, that (in effect) NEWs the program in memory and loads and runs MENU in its place. So, via the MENU, you can move from one program to the other with the minimum of fuss.

There are several good MENU-making programs available and I used a commercial one for several years. I then decided it might be easier to write my own MENU; which would mean that I could add items, or delete them, as required. The listing accompanying this article shows the form as it has evolved up to now.

What is so special about it? Nothing. But it is neat (I think) in the programming, in appearance on screen, and in execution.

It is neat in a programming sense because instead of repeating the FNC(X) formula each time something is to appear on screen, it makes use of a GOSUB (4000). The GOSUB determines where the words appear on the screen; the words are represented by the variable 'A$', the meaning of which keeps changing. In Line 20, for instance, it represents a row of asterisks. The GOSUB determines where the row begins and ends on screen.

The screen appearance is neat because the GOSUB is designed to centre each 'message', so that everything seems symmetrical.

It is neat in execution because, if you follow the instructions, you will get the chosen program running from one keystroke. And if you do not follow the instructions (if, for instance, you type '5' when there are only 4 programs in the MENU) you will be asked to try again (Line 150).

Now, let's examine the listing. Line 5 clears the screen. Line 10 defines FNC(X). This is done with GOSUB 4000 in mind, for in he GOSUB the computer is instructed to print A$ (the variable representing the message: see above) at a TAB position, that is to say, so many spaces in from the margin. How many spaces in? Well, if we are trying to centre the message in the line, the number of spaces will vary. For instance, if there are 80 spaces in a line, and the message takes 30 spaces, you would want 25 spaces either side of the message in order to place it in the centre of the line.

One way of estimating this would be to divide the length of the message in two, and subtract your answer from 40 (i.e. one-half of 80). In the example I have given, the message length (30 spaces) would be divided by 2 to give 15; this would be deducted from 40, to leave 25. So that is the TAB (tabulator) position; 25 spaces inset from the left-hand-margin. And in fact, the distance from the right-hand margin will be exactly the same, because when you have added the (extended) left-hand margin (25) to the message (30) you have 55; that, subtracted from 80, leaves 25. So the margin on each side of the message is exactly the same length: which is another way of saying that the message has been centred.

The formula is 40-(LEN(A$)/2 (see Line 10), which means the computer has to find the length (in spaces) of A$ (the message), divide that figure by two, and then deduct the answer from 40.

The answer is the variable FNC(X) and that variable, following the TAB command in GOSUB command,, fixes the length of the margins when each message is printed. The asterisks in Lines 20 and 30 are, of course, only decorative, setting off the MENU heading. But the computer treats each of them as a message and centres it in the usual way.

Newcomers to programming might pause here and calculate how much work the GOSUB saves them. Without it, one would have to copy out the contents of Line 4000 with each message. A GOSUB is like a GOTO, of course, but with the great advantage that it can (in effect) end with a variable GOTO. Sounds daft? Perhaps it is. But let us suppose that you substituted GOTO 4000 for every GOSUB 4000. The first Line affected would be Line 20. When Line 20 has been centred and 'printed' on the screen, you want Line 25 to come into operation. So you make Line 4005 into 'GOTO 25'. But Line 25 would then instruct the computer to GOTO 4000 (which it would). And what happens then? If Line 4005 already said GOTO 25, you would be in a loop; you really want to go to Line 30 at that stage. This complication vanishes when you use a GOSUB routine. The word RETURN really operates like a variable because it means 'GOTO the point in the program immediately after the point you reached when you did your GOSUB to Line 4000.' That is why a GOSUB is such a valuable weapon when your program calls for repeated use of the same sub-routine.

Line 105 brings the GETKEY command into operation. It really means 'Look at the key which the user pressed in reply to the question in Line 100. Then follow the instructions in Lines 110-135, depending on which key was pressed.' The phrase GETKEY reminds us that we are dealing with a key only: that is to say, one figure or one letter or sign. This excludes numbers having two or more figures (e.g. 12). So if you want your MENU to include more than 10 (i.e. 0-9 inclusive) options, you will have to use letters rather than figures.

I have mentioned the safety-trap in Lines 110-145. If anything other than 1,2,3 or 4 is entered, the message 'TRY AGAIN, PLEASE' will appear on the screen for there will be nothing to stop Line 150 from being reached.

Line 9999 contains the familiar command to save and replace the program. This means that if you want to add further items, later, you will be able to type GOT09999 and the program will automatically save and replace itself.

To test this program, copy it to a disk which already has a basic program on it. Then substitute the name of that program for (say) 'RECORDS' in Lines 45 and 120. Finally RUN the MENU program and press '1' when asked to select a program. The screen should then clear apart from the words: WAIT PLEASE and PROGRAM LOADING.

If you add new programs later, do not forget that the 4 in Lines 110 and 115 will have to be increased accordingly, e.g. if you add two programs, it will have to be altered to 6.

There is nothing original about this program, except, perhaps, the exact way in which well-known programming devices have been assembled. No credit is claimed for it. The aim, as always, is to give you a program which (i) will not take an age to enter (ii) provides examples of elementary methods which novice programmers can employ in other ways (Line 10 and the GOSUB, for instance, could be incorporated in any program where wording on the screen has to appear orderly) and (iii) is adaptable and may be of some use.

P.M.

On the MENU

```
READY.

5 SCNCLR
10 DEF FNC(X)=40-(LEN(A$)/2)
15 REM: MENU-PETER MCDONALD
20 A$="***************************************************************************
***":GOSUB 4000
25 A$="--- M E N U ---": GOSUB 4000
30 A$="***************************************************************************
***":GOSUB 4000
35 PRINT
40 PRINT
45 A$="RECORDS........(1)":GOSUB 4000
50 PRINT
55 A$="AVERAGER.......(2)":GOSUB 4000
60 PRINT
65 A$="BOOKS..........(3)":GOSUB 4000
70 PRINT
75 A$="EXPENSES.......(4)":GOSUB 4000
80 PRINT
85 PRINT
90 PRINT
95 A$="WOULD YOU PLEASE SELECT THE PROGRAM YOU REQUIRE BY PRESSING":GOSUB 4000
100 A$="1, 2, 3, OR 4....":GOSUB 4000
105 GETKEY A
110 IF A<=4 THEN PRINT"(CLR)":A$="WAIT PLEASE.":GOSUB 4000:SLEEP 1
115 IF A<=4 THEN A$="PROGRAM LOADING ":GOSUB 4000
120 IF A=1  THEN RUN"RECORDS"
125 IF A=2  THEN RUN"AVERAGER"
130 IF A=3  THEN RUN"BOOKS"
135 IF A=4  THEN RUN"EXPENSES"
140 PRINT:PRINT
145 PRINT:PRINT
150 A$="TRY AGAIN, PLEASE":GOSUB 4000
155 PRINT
160 PRINT
165 GOTO 95
4000 PRINT TAB(FNC(X));A$
4005 RETURN
9999 DSAVE"@MENU"
```

Opinion

A Llama-lover finds festive hype nauseating, predicts the end for arcade conversions and asks for a sharp 100 inch colour display, three goats and a bottle of Inca Kola. Yes, it's Jeff Minter's column.

Greetings and a happy spending-period to you all. Christmas has come all of a sudden for me, I've been so into writing my game just recently I lost all track of time. I've just finished the game and sent off the master disk last Monday, I switch off the ST and find out that in the Real World the season of festive hype is already well underway, nauseating Woolworths TV ads, aftershave ads, board-game ads, misleading Commodore adverts showing advanced flightsim graphics to the A500 ones, and the software empires slogging it out for the #1 cart slot, will it be Afterburner or Thunder Blade?

This is the last Christmas of big-time arcade conversions. Next year it will all be different.

Remember a couple of issues back I wrote about how the videogame market would split — between videogame consoles and home systems? Well, events which have come to pass in the last month have convinced me that the split could come a lot sooner than expected.

I base this conclusion largely on my experience with a certain black box which arrived from Japan not long ago. I won't spill the beans about the system too much, since part of the deal was that I shouldn't blab, but I've had this new system hooked up to an RGB monitor and believe me, it's videogame heaven. Blows even the PC-Engine right away. The game I got with the system has been converted to both ST and Amiga before; the conversions look like bad Vic-20 games compared to the reality on this new device. This is a home game system which is better than most current arcade hardware. The reason I believe that this is the beginning of the end for home computer arcade conversions can be easily worked out of you consider the following facts:

1: This new system is light-years ahead of ST and Amiga.

2: The system will be a fraction of the ST/Amiga price.

3: It should be on sale in the UK before next Christmas.

4: The system is made by the arcade company who owned the original license to last Christmas's #1 arcade conversion, and who own the licenses to both this Christmas's main contenders — possibly the hottest arcade company in the world.

Now, if you were the boss of the aforementioned arcade company, come next year would you:

a) Flog a license to US Glod or whoever, so that people could play average-to-naff versions of your ultra-popular arcade games on their home computers, or

b) make sure that the biggest, hottest and most awesome titles are only available on your own hardware, which just happens to be so brilliant that it would send any self-respecting arcade junkie into a frenzy of open-chequebook techno-lust?

Not daft, these Japanese. . .

Went to the Atari show, which must have been a lot like the Commodore show from the reports I read: loads of firms selling cut-price software, disks, RS232 cables, cuddly toys, etc, and only one or two software housed demonstrating stuff. We were the only people doing it in the old style, with the latest game running on lots of computers for people to have a god of. Even running on lots of computers for people to have a go of. Even Anco, usually good at providing plenty of 'hands-on', were reduced to a single monitor (hidden computer) running Strip Poker. The old days of going to a computer show and spending all day playing the games, buying the best ones before you leave, are unfortunately gone. Now you might just as well mail-order some cheap software and not bother going to the show at all. . . Mind you, two things were memorable about the Atari show; one was the fact that I got the new Floyd double-live album at an all-night record shop on the Friday night, and well awesome it is too; and the other was the sight of the Atari Transputer engine doing real-time ray tracing. About ten frames a second, I'd say, and the image incorporated objects of a variety of textures, some transparent, some opaque. If you've ever had a go at ray-tracing on the ST or Amiga and seen how long it takes (you can spend hours just doing one frame), you'll realise just how amazing it was to see the Transputer-beastie doing 10 frames per second. Outrageous horsepower. I still can't quite believe it myself, but the text accompanying the demo specifically said real-time ray trace demo, and I don't suppose Atari would fib.

I saw the conversion of my C64 game Revenge II onto the Amiga the other day, and soon wished I hadn't. About seven names on the list of conversion credits, and not one of them had any idea of how to implement gravity or a decent trajectory-generator, judging by the epileptic motions of some of the sprites; shame, 'coze RII wasn't at all a bad game on the C64, and an Amiga version should have been ultrazarjaz. If you see it, please remember: nothing to do with me. Honest. You can tell: no sheep in it. Best bit of it is the camel sprite, which isn't bad.

Any of you old Commodore freaks remember a game called Andes Attack on the old Vic-20? Well, suffice to say that my new ST blaster is finished and I don't boot up Star Ray any more. 'Nuff said.

My Christmas list for this year (quite modest really): an Atari Transputer Workstation, 12 extra transputers to be going on with, one of the new Sharp 100-inch flat-screen colour displays, a Galaxy Force machine (full hydraulic sit-down version please), three goats, six llamas, a bottle of Inca kola, a backstage pass for the next Pink Floyd world tour, and a packet of red Rizlas please Santa.

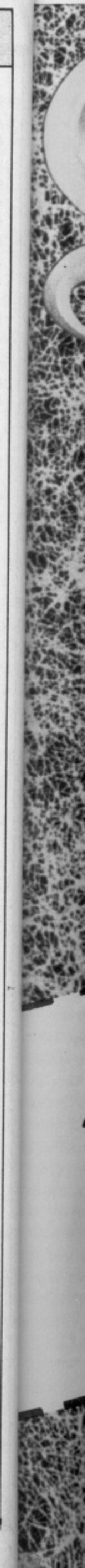
I shall finish now, pausing only to wish you a smooth-scrolling non-interlaced 4096-colour Christmas and a truly 16-bit New Year. . .

Editorial Note:

Jeff Minter is not the only person to comment on what he calls 'misleading' graphics in Commodore's UK TV advertisement for the Amiga 500. So we asked CBM's advertising agency Evans Hunt Scott to comment.

David Evans, Managing Director of Evans Hunt Scott, told us: "Commodore's Christmas commercial is not misleading. All images seen on the Amiga screen are achievable with existing software. Imagination and/or fantasy are only added when the camera takes on 'beyond the screen' eg teddybears and in the plane. On this tightly controlled basis, the ad was approved by both the IBA and the ITVA at storyboard, rough cut and finished version."

Watch out for the TV commercial and make up your mind for yourself.



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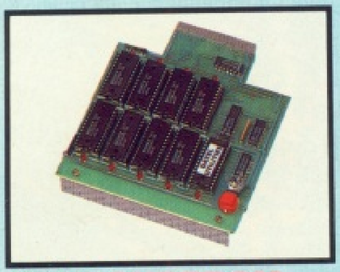

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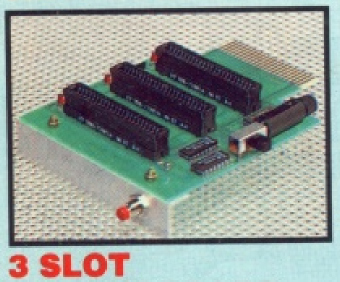

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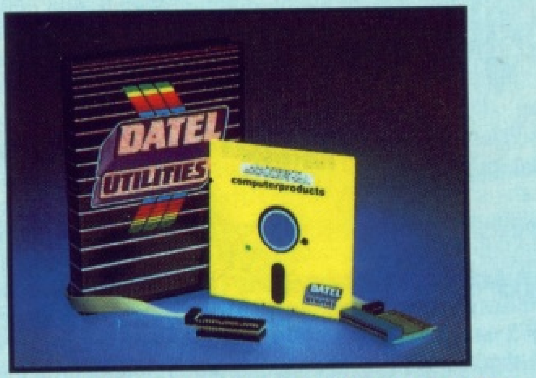

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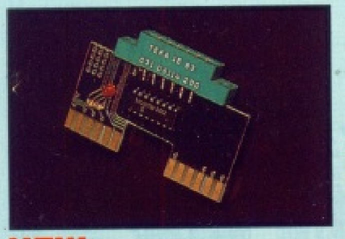

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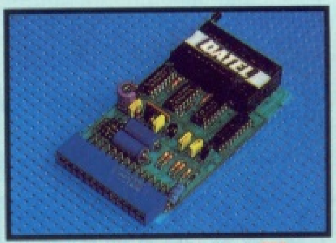

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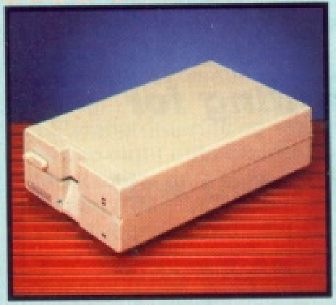

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CCI's Peter Gerrard has played almost every role there is to play. He has written games, articles on creating games and artificial intelligence, and he has even been editor of CCI! Now he's starting a series of articles on how you can write role playing games, too. G.M. is a great new specialised role-playing games magazine that everyone is buying because RPG's are taking the games playing world by storm. It is being said that 1989 is RPG year. So we thought you'd like a Role Playing Games Competition because all CCI readers are always the leaders in whatever exciting trend comes along (well, if it isn't a stupid one anyway). So, we have put together a package of fantastic R.P. games to give away to one very lucky reader.

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SERIAL ANALOG TO DIGITAL

Part I

John Iovine is one of the leading American writers on Commodore computers. In his last article by CCI, he covered parallel interfacing. In this new two part series he explains the serial interface to the user port and gives you tips on how to construct a transducer and other useful devices.

(All charts were created by Rico Gusman using an expanded Amiga 500)

We are going to examine serial interfacing to the user port, and the 60 HZ interupt routine. We will use an off-the-shelf serial analog to digital converter, available at Radio Shack. With these tools at your disposal you will utilize your computer to sense the environment. To whet your appetite, this is a list of projects we will cover this chapter.

1) Bio-feedback monitor
2) Transducers – light and heat
3) Toxic gas detector

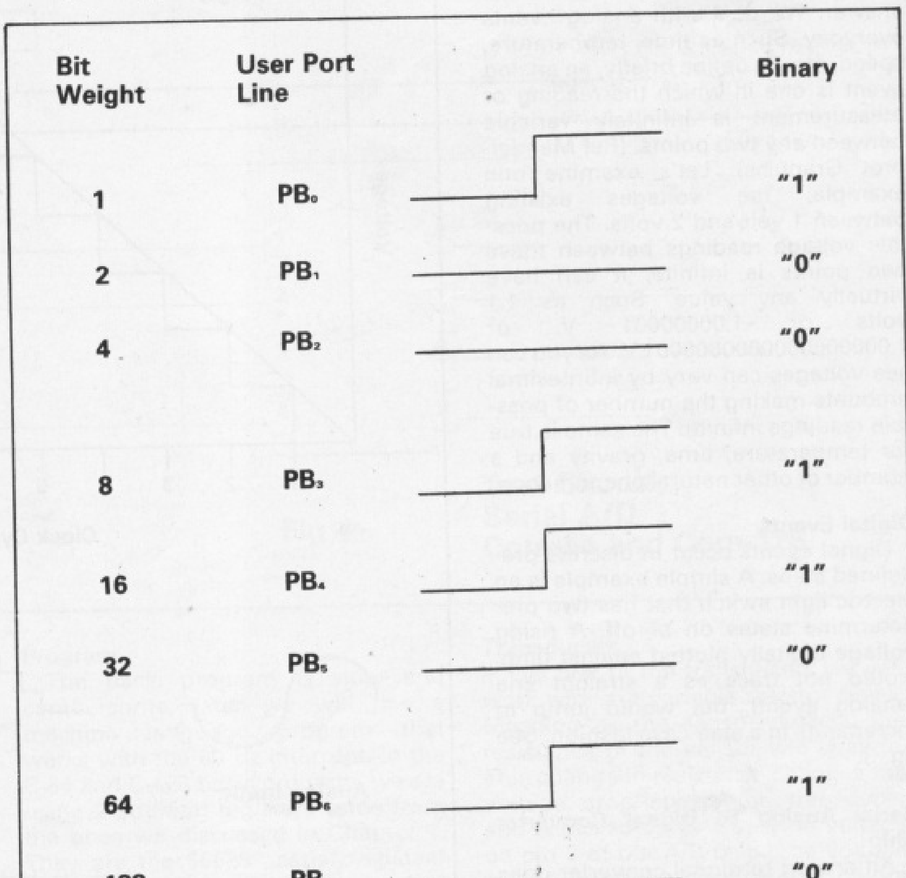
Previously, we have used parallel interfacing without explicitly stating so. If you read the last article (CCI June) you already should have an working (empirical) knowledge of parallel interfacing, we will begin with this and then move on to serial interfacing.

Parallel interfacing transmits or receives eight data bits (see fig 1) simultaneously on eight parallel lines (called a data bus). When using Port B, we have the added advantage of being able to configure a combination of input/output lines on our 8 bit parallel port.

Take a look at Fig 6 to refresh your memory of the basic definition of binary numbers. A binary "1" is equal to app. 5 volts, a binary "O", app. 0 volts.

Fig 1 details our PB lines off the user port. By examining each bit we obtain a total value of the eight bits, which is decimal # 89.

Fig 1
Parallel Port B
01011001 Binary
Decimal # 89



Bit Weight	User Port Line	Binary
1	PB_0	"1"
2	PB_1	"0"
4	PB_2	"0"
8	PB_3	"1"
16	PB_4	"1"
32	PB_5	"0"
64	PB_6	"1"
128	PB_7	"0"

cont. on next page

continued from page 44

Fig 2 shows how the same information can be transmitted or received over a serial line. The first bit transmitted or received is bit 7. The clocking line correlates the precise moment to receive or transmit data on the line.

Commodore computers have a built in serial register and clocking line that can receive or transmit data in such a fashion. This greatly simplifies our programming task.

Analog Events

What is an analog event? This may appear to be an easy question to answer. We deal with analog events everyday. Such as time, temperature, speed, etc. To define briefly, an analog event is one in which the reading or measurement is infinitely variable between any two points. (Ref Mandelbrot Graphics). Let's examine one example, the voltages existing between 1 volt and 2 volts. The possible voltage readings between these two points is infinite, it can have virtually any value. Such as 1.1 volts or 1.00000001 V. or 1.0000000000000000001 V. As you can see voltages can vary by infintesimal amounts making the number of possible readings infinite. The same is true for temperature, time, gravity and a number of other natural phenomenon.

Digital Events

Digital events occur in discrete predefined steps. A simple example is an electric light switch that has two predetermine states on or off. A rising voltage digitally plotted against time, would not trace as a straight line (analog event), but would jump in increments in a stair case fashion. See fig. 3.

Serial Analog to Digital Converter Chip

An analog to digital converter does exactly what its name implies. It reads an analog voltage then coverts it to the proportional digital (binary) value for use by the computer. In our case this digital value is transmitted serially into the computer (see fig 2).

Radio-Shack sells a serial A/D (analog to digital or ADC) converter chip for $6.95 (see parts list). This is an 8-pin chip that is extremely easy to interface to our user port. Some of the chips capabilities are as follows; max 40,000 samples per second, internal clock and 8-bit conversion resolution. (See A/D chip drawing and pinout description).

We will utilize this chip extensively. To interface, we must solder additional lines on our card connector. These lines are the +5 V, serial line and clocking line. See figure 4. For the Commodore and C-128 (SP-2) is the serial and (CNT-2) clocking line we'll use. For the Vic-20, the serial line is CB2 and clocking line (CB1), see figure 11.

Fig 2
Serial Data

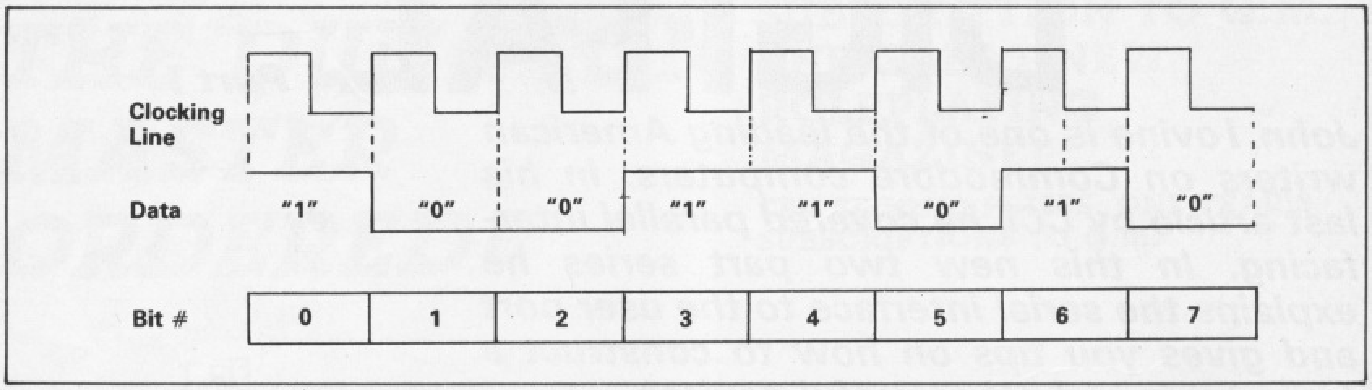
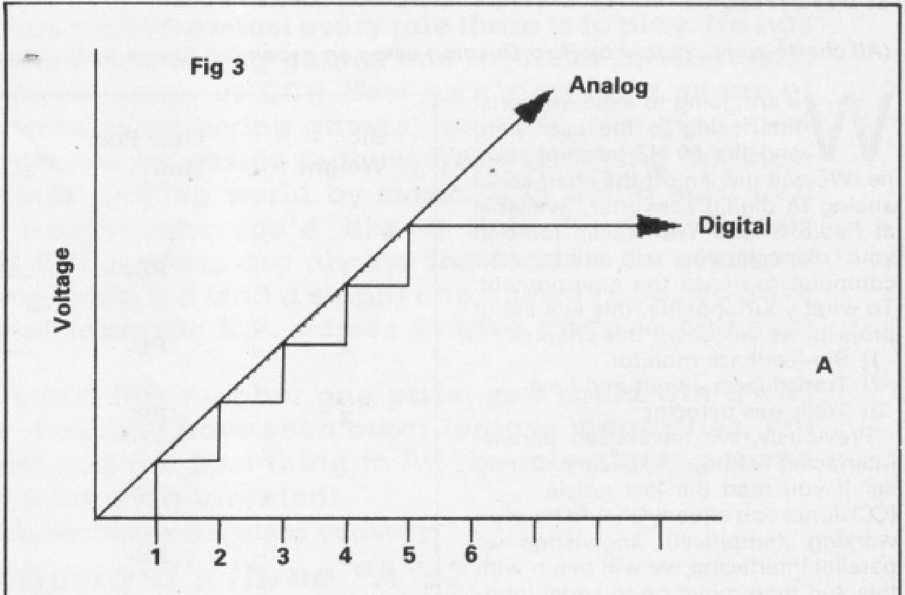


Fig 3



Construct the circuit on your experimenters breadboard. A 10K potentimeter is inserted between the +5 volt line and ground (pins 1 and 4 see schematic and fig 6). The wiper of the pot. is connected to the analog input of the A/D chip. This is a testing pot. for you to test the circuit and run the program. Type in the respective program for your computer and run. Vary the control knob on the pot. and observe the results on the screen. The numbers represent the digital equivalent of the voltage present on pin two. If you have a volt meter handy you can connect the meter between pin 2 (analog in) and ground to observe the correlation of volts to the digital read-out.

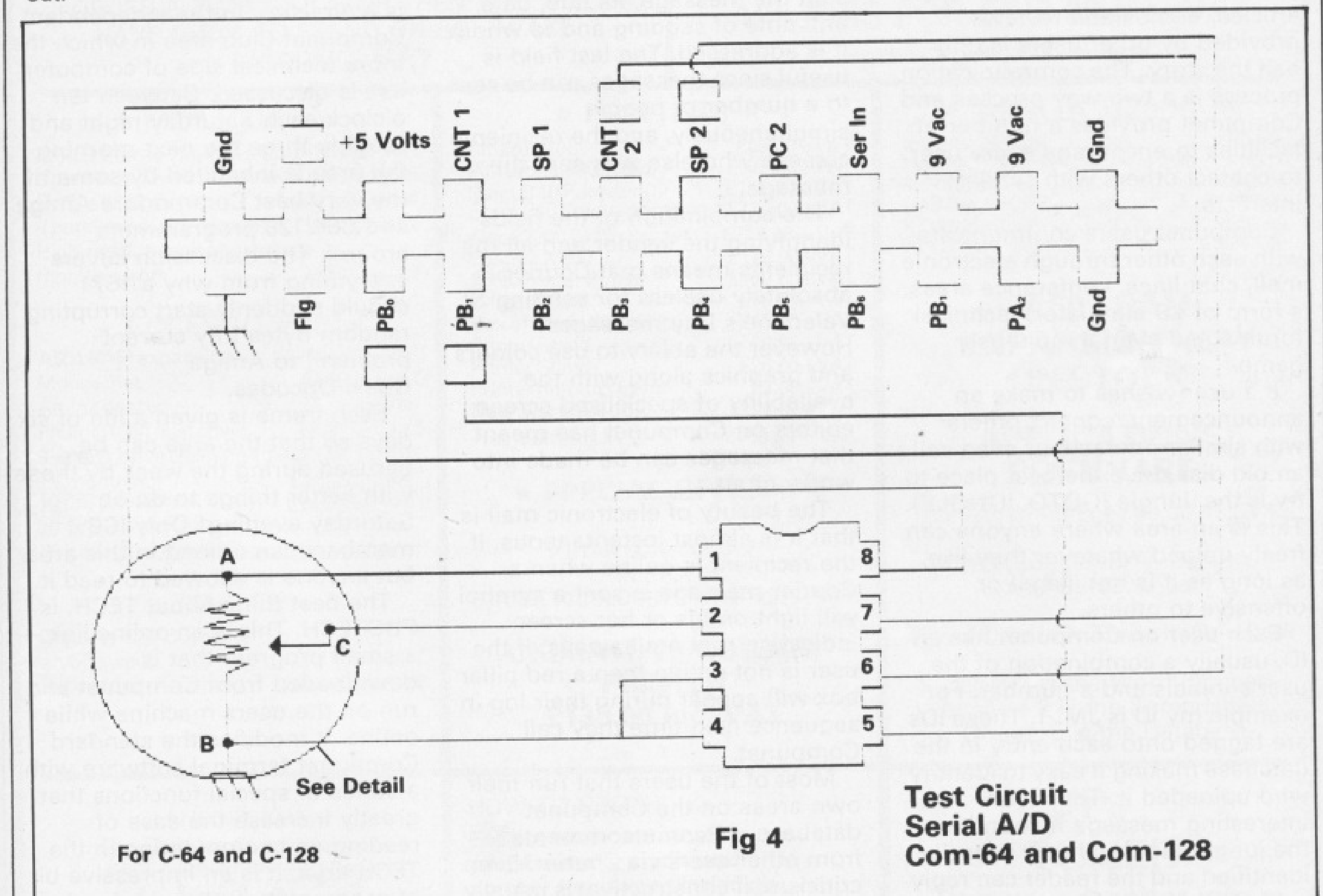


Fig 4

Test Circuit Serial A/D Com-64 and Com-128

The serial register in Commodore computers and the A/D chip is one byte (8 bits) long. The largest number one byte can contain is (binary 11111111) decimal 255. Since we read the computers register to see what is happening in our circuits, the readings can therefore vary from a min of 9 to a max of 255.

We know that this number represents the digital equivalent of the voltage present on pin 2. The relationship between them is this, our Ref voltages (Ref+ minus Ref−) divided by 255 equals volts per binary step (see fig 9). In circuit C1 our Ref voltages are +5 volts and ground 0 volts. So 5/255 = .0196078431 volts per incremented step. Each time the voltage varies by this amount our reading of the serial port would vary by 1 point. It follows then, if the computer is reading 100, we can take this number multiply it by our volts per step and see what the voltage on pin 2 is. Let's do it, 100 x .0196078431 = 1.96078431 V or app. 2 volts.

By substituting different transducers for our testing pot., we can have the computer sense and measure light, heat, toxic gas and galvanic skin resistance.

Program

The basic program is slow and cumbersome, later we will use a machine language program that works with the 60 Hz interrupt. In the C-64 and C-128 basic program, we are using 2 addition registers aside from the ones we discussed in Chapter 1. They are the 56588 "serial register" and the 56589 "interrupt control register". In the former we peek the register to see what number our A/D chip transmitted, the latter we mask all interrupts.

The CRA control register, located at 56590, controls whether the serial line will be an input or output. This register has the proper configuration we need on power up so it isn't necessary to change it.

We use PB 0 line to provide the clocking pulse to both the CNT line and the A/D chip. PB 1 provides the high to low pulse every 8 clock cycles to start the chip transmitting its latest conversion.

The Vic program operates in a similar manner. To understand the serial register, interrupt register and CRA detailed information is provided in the Programmers Reference Guides.

Transducers

The first of the transducers we will work with are variable resistor types. Meaning as the sensor detects, the resistance of the sensor will change. This change in resistance changes the voltage drop across the transducer and is picked-up as a varying voltage on pin 2 of our A/D chip. The voltage on pin 2 will be displayed as before with changes in the transducer resistance tracking like varying the pot. did before.

J.I.

CONTINUED NEXT MONTH...

IN CONTACT ON COMPUNET

Jonathan Littlewood explains how Compunet users are finding the interactive network a highly effective means of getting — and keeping — in touch.

Last month we looked at how to go online with Compunet. Once accessing the system to download. But downloading the articles, demos and reviews provided by other users is only half the story. The communication process is a two way process and Compunet provides a number of facilities to encourage every user to contact others with similar interests.

Compunet users communicate with each other through electronic mail, chat lines, conference areas, a form of CB simulator, technical forums and even a multi-user game.

If a user wishes to make an announcement, contact others with similar interests or even sell an old disk drive the best place to try is the Jungle (GOTO JUNGLE). This is an area where anyone can freely upload whatever they like, as long as it is not illegal or offensive to others.

Each user on Compunet has an ID, usually a combination of the user's initials and a number. For example my ID is JML1. These ID's are tagged onto each entry in the database making it easy to identify who uploaded it. Thus if an interesting message is found in the jungle the originator is easily identified and the reader can reply using Courier, the Compunet electronic mail system.

A Courier message consists of a series of standard Compunet frames.

Each frame is a C64 screen, using all sixteen colours and either the Upper-case/Graphics or Lower-case character sets. Because the Compunet software allows the Amiga and Atari ST to also use this screen format full-colour electronic mail can be sent to any user, whichever machine they may be using.

Each message is preceded by a standard frame that shows who sent the message, its title, date and time of sending and to whom it is addressed. The last field is useful since messages can be sent to a number of people simultaneously, and the recipients can see who else was sent the message.

The combination of the fields identifying the sender and all the recipients means that Courier is absolutely useless for sending St. Valentine's Day messages! However the ability to use colours and graphics along with the availability of specialised screen editors on Compunet has meant that messages can be made into works of art.

The beauty of electronic mail is that it is almost instantaneous. If the recipient is online when a Courier message is sent a symbol will light on his or her screen indicating that mail awaits. If the user is not online then a red pillar box will appear during their log in sequence next time they call Compunet.

Most of the users that run their own areas on the Compunet database welcome comments from other users via Courier. Even criticism, if constructive, is usually welcome. Friendships often spring up this way and one of the pleasures of going to computer shows is to finally meet the people one has been exchanging mail with.

Unfortunately Courier is not designed for transferring binary data, such as programs or data files, privately. However, it is not particularly difficult to knock up a little utility to convert binary data to and from a series of printable characters that can be sent as Compunet frames.

Courier is fine for private exchanges, for more public conversations Compunet offers Chat-On-Line (GOTO CHAT). Chat is a series of directories in which messages are uploaded with a single day's life. Anyone can read the messages already present and add their own. By late in the evening the area can be very busy with a variety of conversations in progress.

TECH

Similar in structure and use to Chat, but aimed at the more technically minded is TECH. This is a directory in the Independent Compunet Club area in which the more technical side of computer use is discussed. Between ten o'clock each Saturday night and roughly three the next morning the area is inhabited by some of the very best Commodore Amiga and C64/128 programmers around. The discussion covers everything from why a 1571 should suddenly start corrupting random bytes (my current problem) to Amiga Quasi-Opcodes.

Each frame is given a life of six days so that the area can be perused during the week by those with better things to do on Saturday evening! Only ICC members can upload in this area but anyone is allowed to read it.

The best thing about TECH, is PROTECH. This is an online link — a small program that is downloaded from Compunet and run on the users machine while online. It modifies the standard Compunet terminal software with a series of special functions that greatly increase the ease of reading and commenting in the TECH area. It is an impressive bit of programming, though for the C64 only.

Compunet provides a third way of holding a discussion, less private than Courier and less public than Chat. Party-Line is a variety of Citizens' Band simulator that allows small groups of users to hold discussions in real-time. Next month we'll take an in-depth look at the facility and some of the specialised software that has been made available to support it.

J.L.

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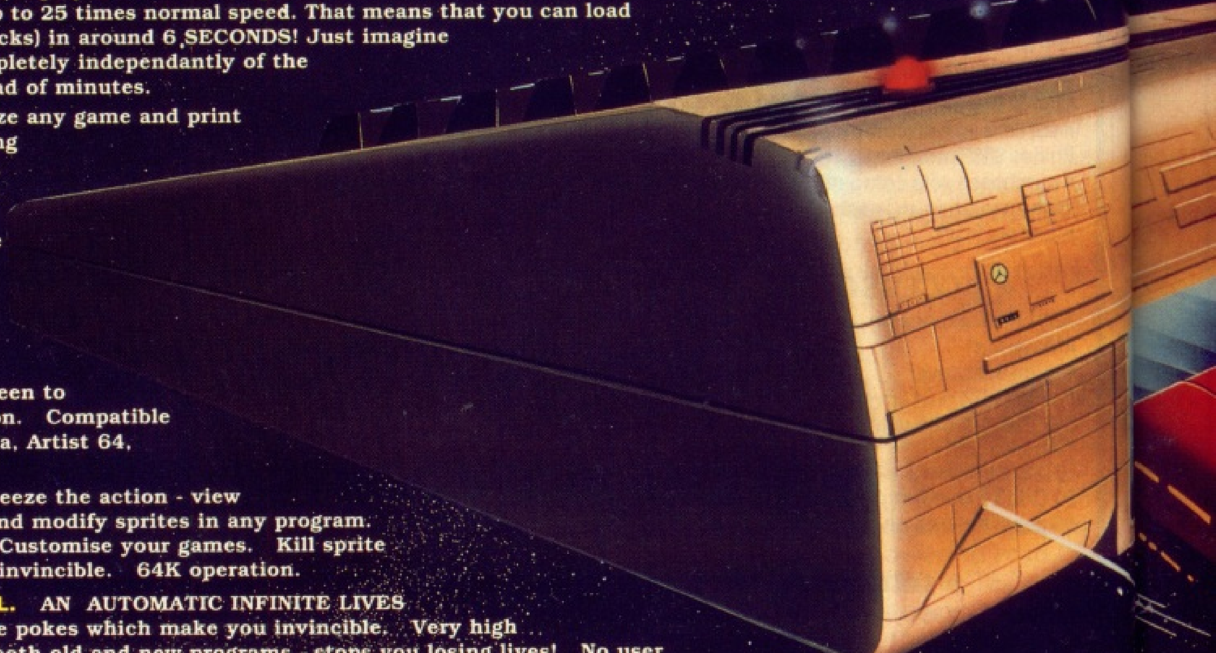

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"HEADLESS COMPUTER USER WINS CRAZY COMPETITION!"

Claims CCI Reporter

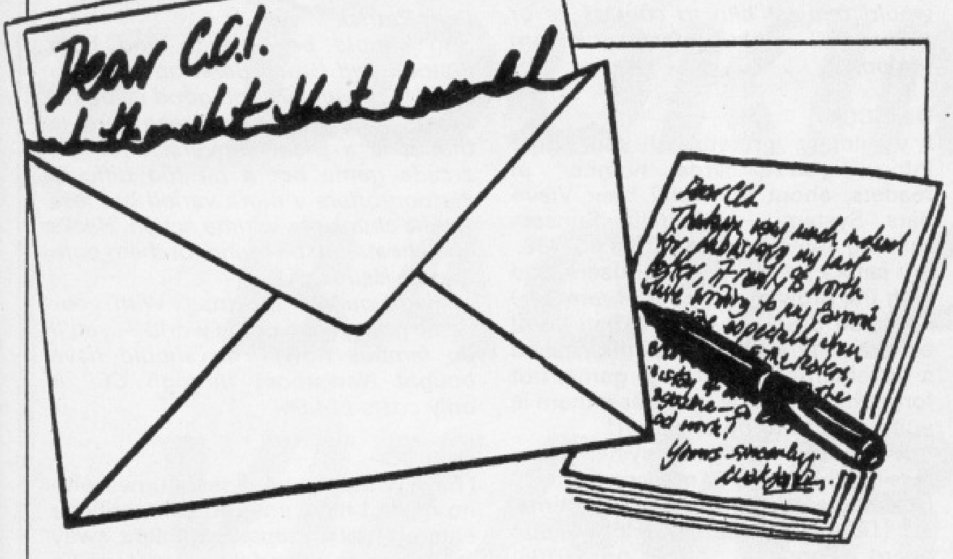
Win a terrific Personal Computer and 20 copies of Zak McKraken from CCI and Lucasfilm!!

Hold the front page! Wake up the Newsroom! (Wait a minute, that's the wrong competition, Dictionary Head!) You are a totally dedicated journalist (like everyone at CCI!) — you are Zak McKracken, everyone's favourite, roving reporter for a sleazy tabloid newspaper. As we wrote in our review. "There's enough in Zak McKracken to keep adventure fans puzzling for hours on end. . ." The wondrous Danielle of U.S. Gold said why not give a portable computer, the kind that all hotshot reporters use these days, to the winner of a Zak McKracken Competition? So, you lucky reporter-to-be, you can win a fantastic Z88 that plugs into a printer or your Amiga. And in honour of your new position in life, and we'll include an invitation and a Press Pass to the next Commodore show in London! Twenty runners up will get a copy of Lucasfilm's amazing Zak McKracken game! (C64).

We'll choose the winners (at random) from CCI readers who correctly answer these questions:

1. **Which newspaper does Zak work for?**
2. **How do the aliens plan to take over the world?**
3. **Where does Zak begin the game?**
4. **Name one country (other than England) where Zak travels.**

Reply by March 15, 1989 on a postcard to:
***CCI** Zak McKracken Competition*
40 Bowling Green Lane
London, EC1R ONE
HURRY! The alien mindbenders are coming



Dear CCI
I agree with you when you say that computer games should not be sponsored by tobacco or any other companies like that, because most people that play computer games are too young to smoke and if they see flash names on the computer game box they might want to take up the terrible habit. If US Gold has an advertisement saying that the man who drives Outrun smokes Benson and Hedges it will encourage other children to smoke.

Everyone I know has at least one pirate game and there is no way of stopping it, but if the computer games were a bit cheaper it might make it not as popular. I know that good games cost a lot of money to make but terrible games like 'Enduro Racer' should not even be a budget game but they slap £9.99 price on them because it is an arcade conversion.

I hope to see my letter in your brilliant magazine and maybe other readers will write in. Could you please send me any T-shirts, tapes or posters thankyou. I hope it gets letter of the month.
Yours Sincerely
Damian Kenny, Birmingham
(Thank you for whatever you send me)

Dear Damian
We agree with you about 'the terrible habit' and smoking is not allowed in the CCI office, perhaps we should put 'Tobacco free' on the cover!

You are right that some games, full price ones, are certainly not worth £9.99. And software companies are doing themselves no good by selling them at that price. Next time the poor old buyer will steer clear of that label. Piracy might be cured by making software cheaper but the companies are in it to make a profit and they believe they are setting the prices at the right level.

T-shirts? Posters? Tapes? What about an Amiga, or a Cray Supercomputer? Do you think CCI is Father Christmas?

Oh well, we'll see what we can do. Maybe (only maybe!) you'll get something through your letterbox!

Dear CCI
On the subject of the Plus 4, are you going to ditch the Plus 4 just like you did with the VIC? If your not then why is the coverage so sparse? You can't make the excuse that there is no software because there is! If you are unable to get the software then i'll bet that you get at least 14 C16/Plus 4 programs sent in by readers per month. Also on the topic of C. Prescott's letter, May 88. I'm sure that most readers of CCI would not mind if there was one or two pages dedicated to the Plus 4. When you consider how much two extra pages would cost CCI and the extra readers (regular readers), I think CCI would be alot better off at the end of the financial year. So go on stick an extra one or two pages in for a year.

If you do this I would not have to stand in the newsagents looking for a magazine that features the C16/Plus 4.
Yours Sincerely
J. Hadlow, Scotland
P.S. I don't care if you publish this, just read it and help all those Plus 4 users out there.
P.P.S. Brilliant magazine when you do articles related to the Plus 4.

Dear J. Hadlow
You may not believe it but we would be delighted to publish either Plus 4 or C16 material. But we don't create software and we are not magicians. If we receive programs for the Plus 4 or C16, we always publish them, if they are up-to-standard. So Plus 4 or C16 owners come on send us in your work. (And what about you J. Hadlow or are you just a moaner not a doer?).

Dear Sir,
I have *just* obtained a Commodore 64 with 1701 Monitor, 1541 disk drive and an MPS 801 printer. However, since I managed to get this equipment through a friend of mine in Dar-es-salaam and *not* through any Agent ('cos there *isn't* any in this part of Africa'), there is a *vacuum* on latest info on new products and software! You can well imagine how desperate I must be having to rely on other 64 users to feed me info.

I have written to a few software companies for their catalogues and stuff but all the same if there is *any* way *you* can send my name and address to a few more software manufacturers, I will be mighty pleased. Don't forget to add my name to *your* mailing list for latest software.
Nurain Jamil Bagha, P.O. Box 2957,
Mwanza, Tanzania (East Africa)

Dear Nurein,
We don't actually sell software ourselves — we have enough trouble publishing magazines. However we thought that if we printed your name and address in your here, some of the smarter software houses would send you their catalogues. We'll be interested to see how many you get and if there is a vacuum in Tanzania, why not start selling software yourself?

Dear Sir,
I am a regular reader of CCI, but I missed out on two copies of your excellent magazine.

July (which happened to be my birthday month) and August.

For the next month I was searching desperately for them both in every shop I could think of!

You were my last resort, and I am begging you to send me a letter saying how much it would be!

Yours sincerely.
Steven Cane, Cardiff. Aged 12.
P.S. I love your magazine!

Dear Steven
We are unfortunately often sent letters from readers whose local shops have sold out of CCIs. The trouble is that, especially in the UK, newsagents almost never reorder magazines once they have sold out. They take the view that with limited shelf space it is better to put another magazine up there for the customers once one has all gone.

However, here at CCI we usually hold back copies of our magazines. So if you want to buy them you can send £1.50 (to include p&p) and we will be happy to send you them. But as it was your birthday, we'll send them to you as a belated present!

P.S. We're glad you love the mag.

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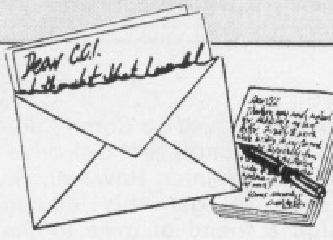

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Obviously you are going to grow up a genius!

Dear CCI

In the April 1988 issue of Commodore Computing International at page 46 there was published a letter attributed to Mr D. P. Whiteside, 171 Great Gates Road, Rochdale, Lancs, OL11 2DP in which he referred to a BASIC tutorial he was running and invited interested readers to get into touch with him.

In the same issue of CCI at page 128, col 3, Mr Whiteside advertised the same course.

On 21 Apr 88 I wrote to Mr Whiteside inquiring about his course and received a very encouraging reply explaining his offer. On 23 May I replied (explaining that illness had delayed my response) and sent a cheque for £2.50 for the beginning of the course. This cheque has been presented.

Having heard nothing, I wrote again on 14 Jul 88 asking him to get into touch with me. He did not do so. On 8 Aug 88 I wrote again asking him to send me the first instalment of the course or return my money within eight days. He did neither.

I do not suppose anything can be done to recover my money but as a former Director of the Press Council I thought I should let you know of these facts. Circumstances of this kind are inevitably damaging to the publication in which advertisements and what gives a semblance of editorial support appear.

Noël Stand, Argyll

Dear Noël Stand

(We think that is the name but the signature is difficult to read). We are extremely sorry that any encouragement was given to you by CCI that led to you losing your money in this way. We have to take on trust the good faith of readers who write to us and publish the letters in the hope that they will inform and entertain other CCI readers. In this case the trust seems to have been misplaced. We have obtained a telephone number for this Mr D. P. Whiteside 0706 524769. In spite of repeatedly trying to contact him by post and telephone we too have received no reply. Interestingly the telephone rings but no-one answers. Without wishing to be morbid, could it be that the illness was fatal? If Mr Whiteside is still alive, we would request him to contact us or perhaps he might prefer a visit from the police.

Dear CCI

I would be grateful, if you could inform you're large number of readers, about my Multi User Viewdata System — "Tequila Sunset" running 24h a day, on (0703) 867786.

It caters for all computer users, and with the growing number of remotely operated SIGs, the information I add almost daily, online competitions, and a development multi user game, not forgetting the large user base, there is quite a lot to to do oneline!!!

It is a true multi user system, professionally run, but not commercial. Growing and improving all the time, TQ (Tequila Sunset) is 'THE' bulletin board. Phone it now, on (0703) 867786, if you can get on, or miss out.

H. Barrett, Totton

Dear H. Barrett

Tequila Sunrise? With a name like that you may have trouble! We believe all CCI readers are tee-totallers! Alcohol is anathema to them! So no-one will want a Multiuser system called that! Or will they? We've told them for you anyway!

Dear CCI

I am writing to you for a few reasons first I think your mag is great!

To my first point, so far I have had some bad luck with my Commodore you see it got stolen. But now I have a new one including monitor, disk drive, mouse, datacassette and printer. I mainly use it for writing games programs etc.

But here in Oz the prices on software is unexplainable. Therefore I buy your mag to see good games from bad. Over here most games cost $30-$60 and quite expensive if you don't like it too much.

My friend Ben James bought Roadblasters for $50 I myself only buy games that have a good review. It's not that I don't like Roadblasters it's just I would not pay $60 for it.

And I live in the country and most of the user groups are only interested in games etc. Could you please have a review on Green Beret or Platoon. Most people here have them and need hacks etc.

I'm only 12 and I saw a games list for some games for 1.50 which is $4.50 here bad eh!

I have purchased Newsroom and use it for stories etc. Cost me $100!!!! I would like to have my letter published or at least mentioned if you could squeeze it in.

Patrick Hallermann, Queensland, Australia

Dear Patrick

You should be able to find both Platoon and Green Beret on compilations that will give you good value for money. The verdict on Green Beret is that it is a great conversion of the arcade game but a bit too diffcult. Platoon offers a more varied but less frantic chunk of wartime action. Hacks and cheats can be found for them both in past issues of CCI.

Glad you like the mag. With your name going all over the world — you'll be famous now! You should have bought Newsroom through CCI. It only costs £24.95!

Dear CCI

I have written to you lots of times with no reply. I have entered competitions entered hints, maps. Even sent away for games in pound currency. I would understand a letter getting lost but 10! I don't know.

I enjoy your mag very much and buy it regularly it's $4.60 to buy the mag and about $5.50 petrol it's 80km to the nearest newsagent.

Could you please tell me why? The thing I ask how is a autograph from you people because I admire you and your product.

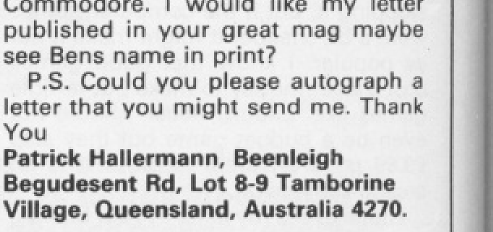
My friend Ben James is not as well off as we are and he can't afford to buy mags or games. He would really appreciate a autographed mag. His father saved up for years for the Commodore. I would like my letter published in your great mag maybe see Bens name in print?

P.S. Could you please autograph a letter that you might send me. Thank You

Patrick Hallermann, Beenleigh
Begudesent Rd, Lot 8-9 Tamborine
Village, Queensland, Australia 4270.

Dear Patrick

Well, we don't know what's been happening to your letters (or our mail!). We try to answer all letters — so we certainly wouldn't have ignored yours — especially if there were 10 of them! The petrol seem overtly expensive or do you have to go a long way? It's nice of you to ask for your friend Ben, so there is a CCI Tee Shirt on the way to both of you plus an autographed mag for Ben and that's 2 letters from you.



LOOKING BACK AT VIZAWRITE

Kevin Lacy's famous Viza series of programs have a place in Commodore history. Peter McDonald starts an occasional CCI series of 'golden oldies' with a look back at a true 'classic'

When I bought my C64, I used VIZAWRITE 64 and swore by it. So when I upgraded to a C128D I bought VIZAWRITE CLASSIC, suffering some early frustrations because it would not work on a 40 character screen. But eventually I bought a 1901 monitor (how's *that* for antique equipment?) and was once more in business. The CLASSIC version evolved from the 64 program and is easily mastered by those who are familiar with the earlier edition. The manual covers the basics. But there are ways of developing many of the faciities; VIZAWRITE CLASSIC is acknowledged to be a powerful package.

I thought anyone who has it and comes across it might be interested in some ideas for getting more out of this versatile word-processing program.

Glossary

Make sure you use the Glossary. This is really a VIZAWRITE document into which you write the words and phrases you anticipate you may wish to incorporate in a letter or article later. Each item has a short name (one which you can remember) and 'merge' symbols are inserted after the name and after the phrase. The Glossary is saved to disk under a short name (I use 'G'; it says all that is needed!). If you want to add anything, or amend or delete it, you do what you would do with any other document: load the Glossary from disk, alter it on screen, and then, using the File-Replace command, replace the old version on disk with the amended version. Immediately after booting CLASSIC you load Glossary by inserting the appropriate disk and typing Logo-V-G. You will be asked which Glossary to load, and you type G. This loads the Glossary into the computer's memory where it can be accessed via the program itself (type Logo-E-G; this asks you to insert Glossary item, so you type the name of the item you want and immediately it appears at the point occupied by the cursor on screen; if the 'name' of the item is only one letter, you can merge the item into your text simply by holding down the ALT key and typing the letter).

Repetitive Work

We all have repetitive work to do. The Glossary can help enormously. It is not just a question of retaining a name and address. ("Type cci and you get 'The Editor, Commodore Computing International, Finsbury Business Centre, 40, Bowling Green Lane, London, EC1R 0NE.' "). It can hold, and deliver, much more than that. Now that Mrs Thatcher is making shareholders of all U.K. private citizens, we need Dividend Mandates to make sure that the welcome pay-outs go straight into the bank. So I drafted a form of mandate, based on those the companies supply, and put that into the Glossary. If I need it, the basic form can be brought instantly to the screen, the details typed in, and the finished product saved to disk and printed (the best order, by the way, for sometimes the printer can develop a hiccup which locks the computer . . . so save before you print). I have a 'heading' for letters in the Glossary, too. This takes different forms for different purposes; for instance if I type my house-number (254) followed by a 'w' (for window) the Glossary will produce a letter-heading for me with everything in exactly the right place to ensure that the address of the person to whom I am writing will be absolutely in line with the envelope's 'window' when the letter is folded and placed in the brand of envelopes I use.

Frequently-used

Of course my Glossary contains frequently-used names and addresses

cont. on next page

continued from page 55

etc. Can you remember your VISA number? I can't remember mine. But I only have to ask Glossary for 'visa' and my number appears like magic on the screen: very useful if you are buying by mail-order and want to give your credit-card number in the letter. And to get a headed sheet addressed to The Editor of this magazine all I need to do is ask the Glossary for '254/w' (for the 'notepaper heading') and 'cci' (for the name and address). And when I have finished this article, I shall ask it for 'title' and will be presented with a 'form' for a front-sheet. To complete it, I need only type in the title and the number of words. Do I count all the words? No; VIZAWRITE does this for me. If I hit Logo-V-S, a window appears giving me the number of words, sentences, paragraphs and pages in the document currently in memory. Most people can see the reason for totting-up words: editors like to know how much space an article will take. But why sentences, paragraphs and pages? Well, this enables you to do a rough check on style. If, for instance, your 128 tell you that you have written 1,000 words, and only 20 sentences, then you know that, for most purposes, your sentences are too long. So you could lighten your prose by splitting some sentences into two. Again, you might decide that there are too few paragraphs to a page.

More than one

Have you ever thought of compiling more than one Glossary? The VIZAWRITE manual says that there is no limit on the size of each entry in the Glossary. But, clearly, the Glossary itself is finite in length! It has to start life as a VIZAWRITE document, so it cannot contain more than the equivalent of 30 pages of A4. (According to VIZAWRITE a completely blank document has 35,412 characters free.) In any case, the Glossary *could* become so large that it occupies a disproportionate amount of memory. My own Glossary at the moment occupies 85 blocks, contains 2,157 words, and has 14,112 characters free. Many of the entries in it would be useless if I were writing a book. Now there is no rule against having more than one Glossary. Indeed you could compile a Glossary which is 'tailor-made' for a particular job, saving it to the disk you are using for that project, and loading it just before you begin work again on it. I keep my 'normal' Glossary on a disk called 'Facilities' which also contains the 'Profile' for my printer, so I can load both these items from it as soon as I have booted VIZAWRITE. I call my Glossary 'G'. But a specialised Glossary on its own disk could also be called 'G'. When loaded it would replace any Glossary previously in memory.

Help!

If, whilst you are writing, you require a piece of information contained in the Glossary, you can call it on to the screen. As it will appear where the cursor is, it will form part of the text which is probably what you desire. However, having noted the information, you can simply delete it from the text. But this is a little clumsy and you would do better to use the HELP command. This command is not easy to understand if you rely only on the manual. The reason is that, in their wisdom, VIZA SOFTWARE decided not to explain it there but on the VIZAWRITE disk. So you insert that disk in the drive, press the HELP key, and the instructions appear on screen. As these tell you, in order to use the HELP facility, you have to create a document or file called VW.HELP containing the information to which you may want to refer. Mine has been saved to the 'Facilities' disk mentioned previously. When I want to call it up, I simply insert the 'Facilities' disk in the drive and press the HELP key. This brings the first 'page' of my HELP file on screen and I can leaf through the pages until I find what I want. Now you cannot use the SEARCH FIND facility on the HELP file. So there is something to be said for arranging it alphabetically (not difficult, as you can use the commands for moving or inserting text when writing the document) so that it is easy to find what you want. When you have found it, you press STOP and the document upon which you were working is restored to the screen.

WORK and Fill

The WORK page can be used for listing information relating to the document being written. You can consult it by using the GOTO command followed by 'w'. But what if you are editing a newsletter, or writing an article with a number of long quotations in it? It is worth creating a document called 'fill' on the same disk you will use for your newsletter. If you call your newsletter files, for instance, 'n/l', the newsletter for March 1989 will be 'n/l8903'. Your 'fill' could be called 'n/l/fill/3/89'. As soon as you have an item for that issue of the newsletter, write it into the 'fill' file as p.1. When you get the next item, start a new page, and do the same whenever you write up a new item. When you come to write the newsletter, do a quick print out of the 'fill' file, using the HEADER command to number the pages. You can then study them in print and decide on the order in which you wish them to appear in the newsletter itself. Create the newsletter file on the same disk, and by using the MERGE command, bring into that file the appropriate item from the fill file. This is easy. You simply note the page number(s) in your print-out and when you do the MERGE command, and the 'window' appears on the screen, you type 'n/l/fill/3/89' as the name of the document, followed by the pages you want. They will merge into the 'n/l' file in the order in which you ask for them. You can do your final editing, and you are away.

Labels

I mentioned, briefly, that the WORK page can be used for a 'mail merge'. If the required names and addresses are already in Glossary, it is an easy matter to transfer to the Work page the ones you require for particular mail-shot. You can then add anything else which needs to go into the letters, and add the MERGE symbols. What about labels? Easy if you are using the one-per-row labels on a dot-matrix printer. Copy the names and addresses from the Glossary using the Log-E-G command. Then put a page-ending symbol after the end of each address, so that there is only one name and address to each page. You now have to work out the correct spacing for the labels you are using. In other words, the pages are a document, each label represents a page, and the page length must be equal to the number of lines needed to move the label fanfold the necessary distance to bring the printhead, after each move, to the required position on the next label. At six lines per inch, the labels I use have to be treated as if they were sheets of paper only 9 lines long. Then you can print (say) 'pages' 1, 2 and 3 as specimens, to see if the position of thelabelsneeds altering in the printer. Once the setting is right, you simply set the PRINT DOCUMENT command to print the desired number of copies of each label, and away you go. (This is such an easy way of labelling that when I go abroad, I print a roll of labels with the names and addresses of everyone to whom I shall be sending a postcard. The roll saves me from having to take an address book, tells me how many cards I have to buy, and ensures that when I have no more labels left, I must have covered everyone.)

Can, or Can't

These remarks have been made with VIZAWRITE in mind. But other word-processing programs have similar features and you will almost certainly be able to adapt some of these suggestions to your favourite program. If you can't, then buy VIZAWRITE CLASSIC! ***P.M.***

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MICRO

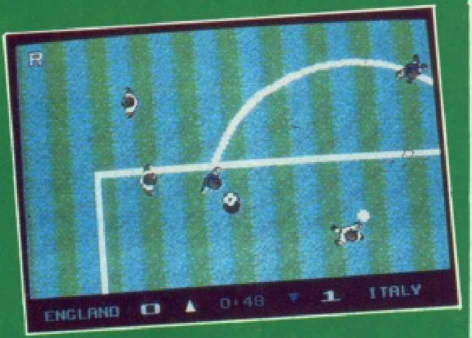
SOC

Tekhan's World Cup coin-op never made it to the 64 but just as good (if not better) is Sensible Software's latest, which takes the best bits of the arcade game and adding to them results in it becoming very strong rival toi the superb Emlyn Hughes International Soccer.

Two versions of the game are included in the package: gold old fashioned eleven-a-side played on a multi-directional scrolling grassy pitch, or an American-style indoor six-a-side game. As usual you control the nearest player to the ball. If you are in possession of the ball, pressing the fire button puts the player into 'kick mode', where different joystick positions correspond to different kicks. Pushing the stick forward whacks the ball in the direction you're running, centres it for a chip, pulls it back for an overhead kick or to one side for a banana shot. A harder shot is achieved by holding the button for longer.

Tackling opponents is a simple matter of running at them and pressing the fire button to initiate a slide. Get it right and you will rob the player of the ball, but mis-time it and you will most likely end up skidding off the screen. Goalies are controlled like the rest of the team, except pressing fire makes him dive for the ball.

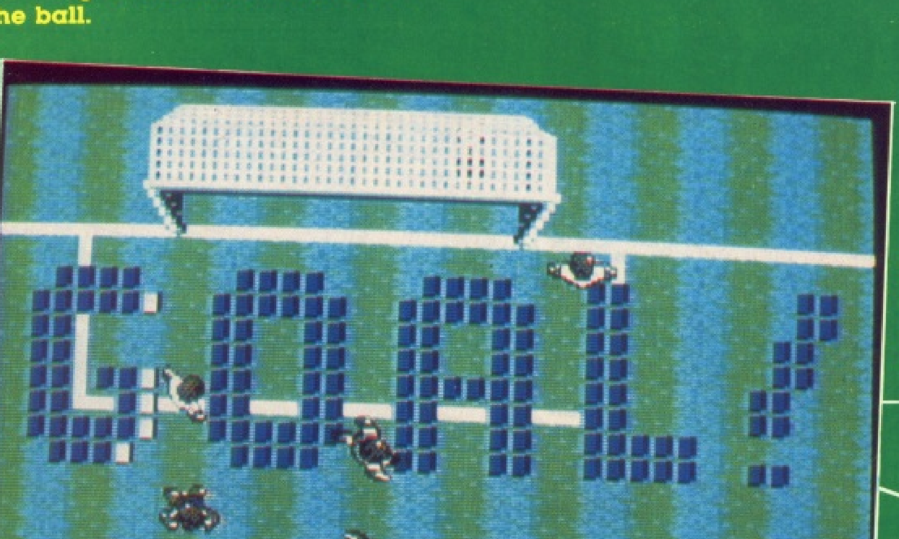
Ego-trippers are catered for in the action replay feature. After each goal, the action wizzes back (with video interference for realism) to the start of the move and plays it back, switching to slow motion as the ball crosses the line. These have the added effect of really rubbing salt into your wounds after scoring an own goal! Another of the optional extras is the very changable weather. At any time it could start raining buckets, speeding up the ball and having drastic effects on sliding tackles.



The menu screen gives you a choice of three types of tournament to play in or a two player friendly. Select control panel from here and you can load and save game situations, choose between three banana shot powers, ajust the game length, change to automatic player selection and toggle between colour and black and white modes.

> *"At any time it could start raining buckets, speeding up the ball and having drastic effects on sliding tackles"*

The six-a-side version is played on a smaller pitch and split into quarters, making it too cramped to be as playable as the European game. The World Cup competition works very well. You



can choose to play as any of the 29 teams ranging from Brazil to Japan. Playing as Brazil should give you the best chance of winning, though I found it pretty tough even then!

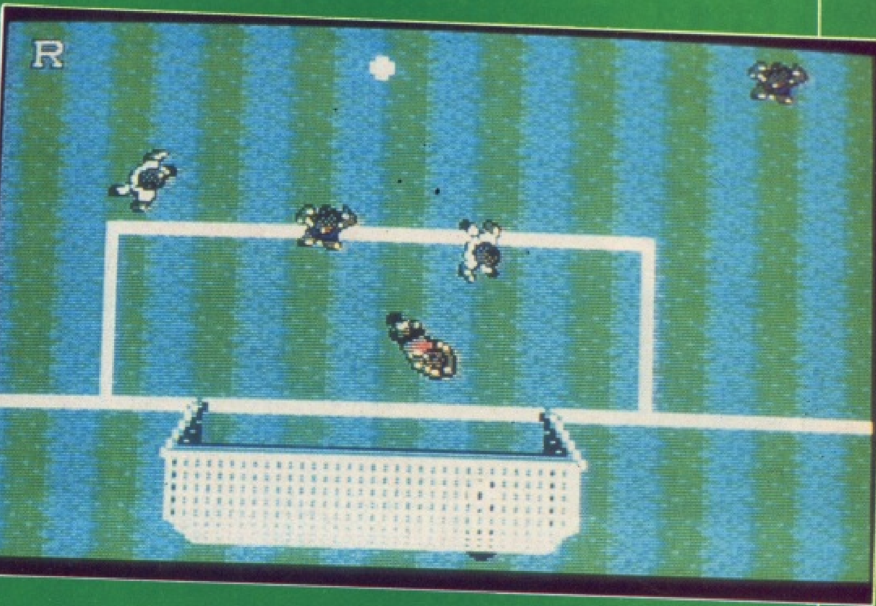
I had expected a little more from Martin Galway's sound. The music is all very nice but a few more sound effects would have helped.

Graphically 'Soccer' is impressive. The sprites are very well detailed, so much so that Sensisoft had a tough job convincing recent Commodore Show-goers that it was really a 64 game and not running on an Amiga! Not only are the sprites attractive but the action replay effect works extremely well.

Despite what look like attempts by Microprose to turn the game into a simulation (the packaging, the unimaginative title etc.), the humour and lively approach of the authors shines through. At first it seems a little too limited to rival the realism of Emlyn Hughes, but it's just so addictive!

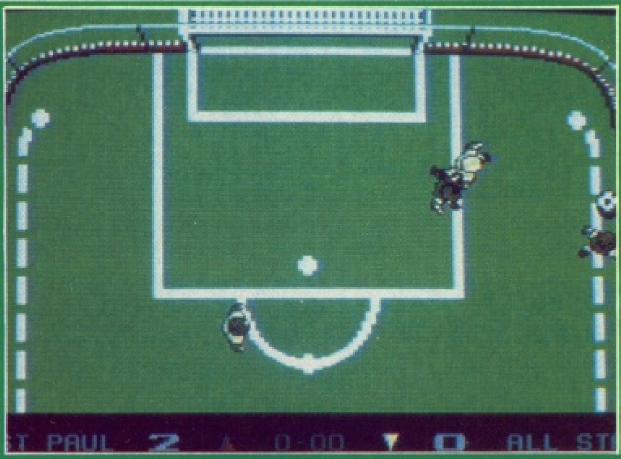
Even if you think you've got enough footy games in your collection, Microprose Soccer still should not be missed. For 64 owners it will be considered one of the outstanding sports games of all time. My only grumble is with the surprisingly high price, the only smudge on an otherwise excellent product. Even if you are not a hot football fan buy Microprose Soccer, you will love it. It's a great piece of entertainment.

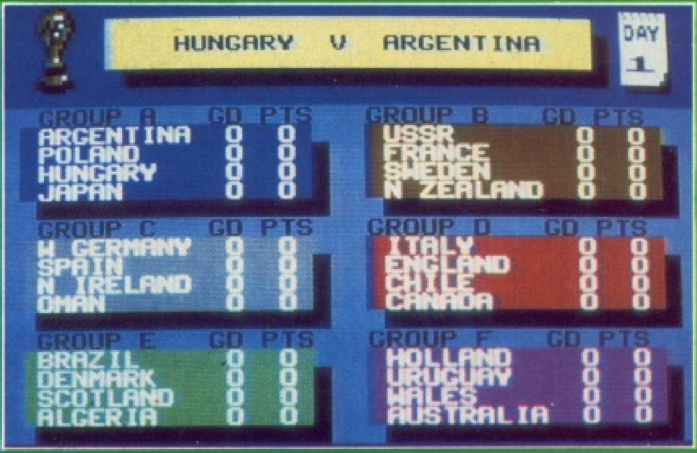
T.H.



PROSE CER

Microprose





HUNGARY V ARGENTINA

DAY 1

GROUP A	GD	PTS
ARGENTINA	0	0
POLAND	0	0
HUNGARY	0	0
JAPAN	0	0

GROUP B	GD	PTS
USSR	0	0
FRANCE	0	0
SWEDEN	0	0
N ZEALAND	0	0

GROUP C	GD	PTS
W GERMANY	0	0
SPAIN	0	0
N IRELAND	0	0
OMAN	0	0

GROUP D	GD	PTS
ITALY	0	0
ENGLAND	0	0
CHILE	0	0
CANADA	0	0

GROUP E	GD	PTS
BRAZIL	0	0
DENMARK	0	0
SCOTLAND	0	0
ALGERIA	0	0

GROUP F	GD	PTS
HOLLAND	0	0
URUGUAY	0	0
WALES	0	0
AUSTRALIA	0	0

Graphics: 92%
Sound: 69%
Playability: 91%
Overall: 87%
Rating: MEGA
Price: £9.99 (c)
£14.99 (d)

C64

CRISP

OPERATION WOLF

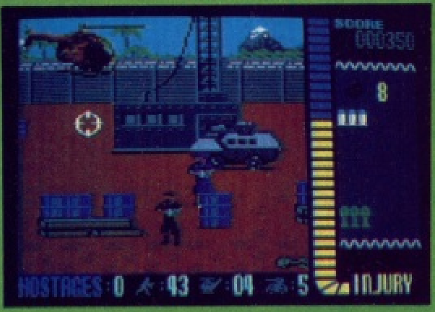
Ocean

THERE can be no doubt that in the arcades, most of Operation Wolf's success can be put down to the machine gun mounted on the front of the cabinet. Take that away and it might seem that the game would lose a lot of the realism and excitement, but fortunately there is a bit more to Operation Wolf than merely a vibrating light gun. And for C64 wolf operators are giving an on-screen crosshair which acts as the gun sight. So the impression if not the reality, is not so far from the crowded stand-up and shoot arcade version.

The first of O.W.'s six levels is set in the enemy communications centre. Here your objective is to disable the base and cut off the enemy from rescue. While the screen scrolls slowly from left to right, soldiers run out in front of you and open fire with machine guns. The kick of your gun tends to make aiming a little tricky, so the best idea is just to spray the area with lead until your target drops dead. However, ammo comes in very short supply so you still need to make sure you don't go too wild.

While most of the troops keep their distance, some pop up right in front of you, only pausing for a second before shooting or lobbing a grenade or knife in your direction. Tanks and helicopters occasionally appear, taking a number of bullets or a grenade before exploding.

Discarded ammo cartridges can be picked up, as can medical supplies and bombs. Another aid comes in the form of a mega-gun that gives rapid fire with unlimited ammo for a short time.

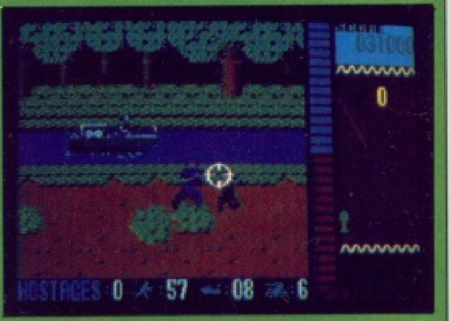


Kill all the enemies in a section and the progress map informs you of your next sub-mission. Level two takes you through the jungle where the slaughter continues as before but with tanks replaced by gunboats. Next comes the village, followed by the powder magazine, the concentration camp and finally the getaway.

> *"The mouse is a far more suitable control method which works very well, and with its second button for launching grenades there is no need to lunge for the spacebar in times of panic"*

Ocean have very sensibly included an option for Neos mouse control. Played with the joystick, the crosshair can be very difficult to control accurately. The mouse is a far more suitable control method which works very well, and with its second button for launching grenades there is no need to lunge for the spacebar in times of panic.

The overall look of the graphics is blocky but then that is hardly surprising considering the amount and size of the sprites on screen. Even though the sound effects are pretty standard, the small snatches of music create the right atmosphere.



In the arcades I found Operation Wolf lost most of its attraction before long and I can see the same happening with the 64 version, though the game is reasonably entertaining. There is a repetitiveness in the action that might just not provide enough variety to give that extra touch of magical magnetism that separates the great game from merely the good. Operation Wolf on the C64 will satisfy fans of the coin-op but the limited gameplay could disappoint others less fanatically disposed.

B.V.

Graphics: 67%
Sound: 63%
Playability: 71%
Overall: 70%
Rating: CRISP
Price: £9.95(c)
£14.95(d)

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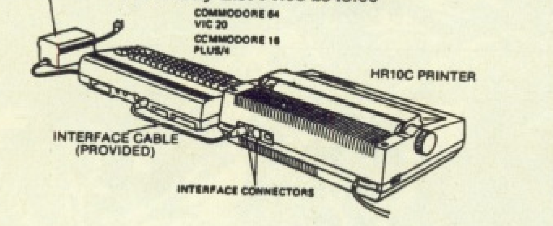

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Charts

Chart Chattering Happenings . . .

So it made it to Numero Uno, THE BIG ONE, The Führer, The Leader, The Boss! Yes, U.S. Gold's Thunder Blade did, as we correctly predicted, smash into that coveted Very Top Spot at its first entry. The Brummagens' mucho biggie was the unstoppable year end chart's champion. Though it has to be said that it may not only be the demand of you the hungry games players but also U.S. Gold's legendary marketing muscle that drove it our over the U.K. in its thousands. They seem to have timed it just right, where the two strongest challengers hit just before, in the case of Ocean's Operation Wolf and just too late, for Mediagenic's Afterburner, to get to be our Chart Topper. The whole 64 Chart this month is full of new faces with only the first two of the last Ten surviving the bloodbath.

Nothing though seems exceptionally original in the new entries even if the whole lot are far batter quality games than we've ever had the chance to play before. So what may turn out to be the most-played games over this period could be the good old football entertainments, both from companies we wouldn't normally think of for them — Microprose and Audiogenic. Hooray for them!

On the Amiga front, as we predicted again (Oh how we love to be modest but we have to tell you how right we were!) Rocket Ranger holds on tight to the Star Spot for the second month. But here too there is rush of newcomers as the whole software industry wakes up to the exploding Amiga market. Grandslam's lovely Pacmania grabs a place and U.S. Gold also has an entry with Outrun. Mirrorsoft's new label Imageworks makes an impact with the well-received Speedball. For the Budgets, the ever-popular ACE gets Cascade its first Number One and U.S. Gold (You can't keep them out, can you?) have two of their cheapo brand, Kixx, in the running — Footballer of the Year and last month's Chart Top Gauntlet. Remember when it topped the *full price* chart? That was just two years ago . . . Lots of games have gone the way of the computer tape since them . . . If you can wait two years or so you might buy Thunder Blade for a couple of pounds . . .

GAME TITLE	COMPANY	PRICE	RATING	
1 Thunderblades	U.S. Gold	£9.99	Mega	★
2 Operation Wolf	Ocean	£8.95	Crisp	★
3 Double Dragon	Melbourne House	£9.95	Iffy	•
4 Batman	Ocean	£9.95	Mega	•
5 Emlyn Hughes International Football	Audiogenic	£9.95	Awesome	•
6 Barbarian II	Palace	£9.95	Mega	
7 R-Type	Electric Dreams	£9.99	Crisp	★
8 Daley Thompson's Olympic Challenge	Ocean	£9.95	Mega	
9 Microprose Soccer	Microprose	£14.95	Mega	★
10 Pacmania	Grandslam	£9.95	Mega	★

Amiga

1 Rocket Ranger	Mirrorsoft	£9.99
2 Pacmania	Grandslam	£19.95*
3 Speedball	Imageworks	£24.95*
4 Outrun	U.S. Gold	£24.95*
5 Starglider II	Rainbird	£24.95

Budget

1 Ace	Cascade	
2 Commando	Encore	•
3 Footballer of the Year	Kixx	•
4 Joe Blade II	Players	
5 Gauntlet	Kixx	

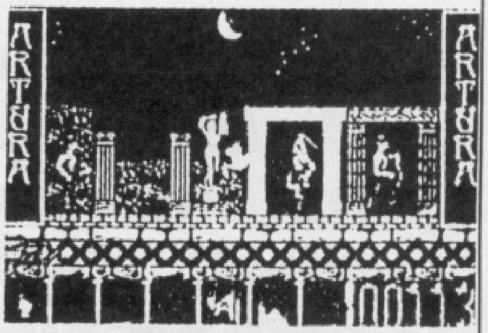
★ NEW ENTRY

C64

Naff

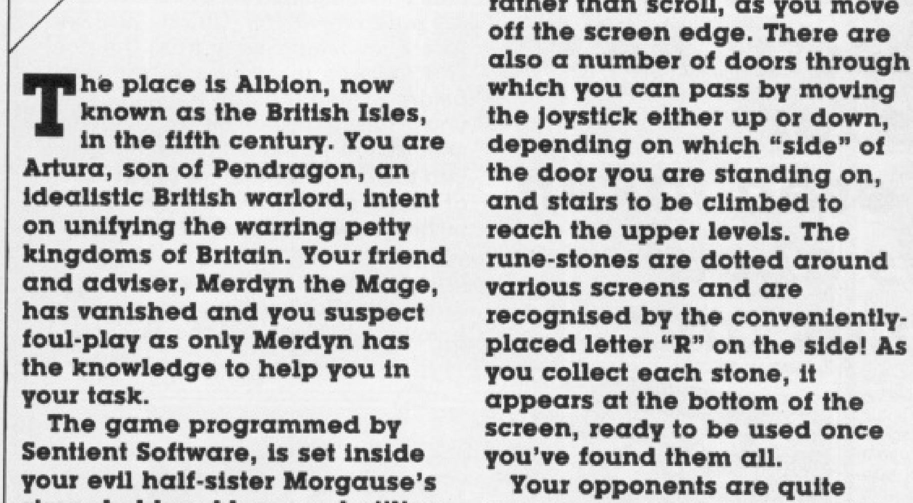
Gremlin Graphics

ARTURA



The place is Albion, now known as the British Isles, in the fifth century. You are Artura, son of Pendragon, an idealistic British warlord, intent on unifying the warring petty kingdoms of Britain. Your friend and adviser, Merdyn the Mage, has vanished and you suspect foul-play as only Merdyn has the knowledge to help you in your task.

The game programmed by Sentient Software, is set inside your evil half-sister Morgause's stronghold and has you battling against a variety opponents, including soldiers, ghouls, spiders and giant rats, whilst you search for the missing runes. Your only weapon is a seemingly inexhaustable supply of battle-axes that you can throw in any direction.



The action takes place over a number of screens that flip, rather than scroll, as you move off the screen edge. There are also a number of doors through which you can pass by moving the joystick either up or down, depending on which "side" of the door you are standing on, and stairs to be climbed to reach the upper levels. The rune-stones are dotted around various screens and are recognised by the conveniently-placed letter "R" on the side! As you collect each stone, it appears at the bottom of the screen, ready to be used once you've found them all.

Your opponents are quite relentless in their attacks and will sap some of your energy each time they touch you. (The game ends when your energy falls to zero). Throwing your axe is your only defence and while most enemies will be destroyed by only one hit, some, like the soldiers, need several hits to be finished off.

The screens in "Artura" are reasonably well drawn, although on occasions the colours clash. The main playing area is the top two-thirds whilst the bottom third contains your energy level, score and representation of the runes that you've collected so far.

Whilst I have no major gripes about the screens, when it comes to some of the sprites used for the various characters, things tend to degenerate very quickly. The two major characters, (yourself and the soldiers), are not too bad but some of the others are abysmal.

I once fell into a dungeon where I was assailed by black blobs pretending to be spiders!

On most screens, flocks of birds(?) or some other brown lumps fly across for no apparent purpose. But it was the "giant rats" that really cracked me up! I honestly thought, the first time I saw them, that they were cute little puppies, complete with wagging tails, come to greet me!!

There are some sound effects, though these consist of a few indistinct noises and a sound-track that is interesting when you first hear it, but had me reaching for the "off-button" within a few minutes.

N.S.

Graphics: 33%
Sound: 21%
Playability: 26%
Overall: 25%
Rating: IFFY
Price: £9.99 (c)
£14.99 (d)

HORGAN'S HINTS

Tony ('It's my ball') Horgan has been trotting round CCI Towers dressed in cute shorts and striker's boots. He's gone bananas for football. He's even taken to writing hints about them — bananas and football.

So, you've read the review of Microprose Soccer and impatiently thrust your wad across the counter in exchange for the game. Now you've got it at home you're probably finding it a bit tricky. Well don't give up, your old Uncle Horgan has worked out a few handy shots that are not only very effective, but guaranteed to induce some serious self-congratulation during the replays! Add to that another generous helping of cheats, tips and pokes and you are in for a pretty good time of it if you ask me.

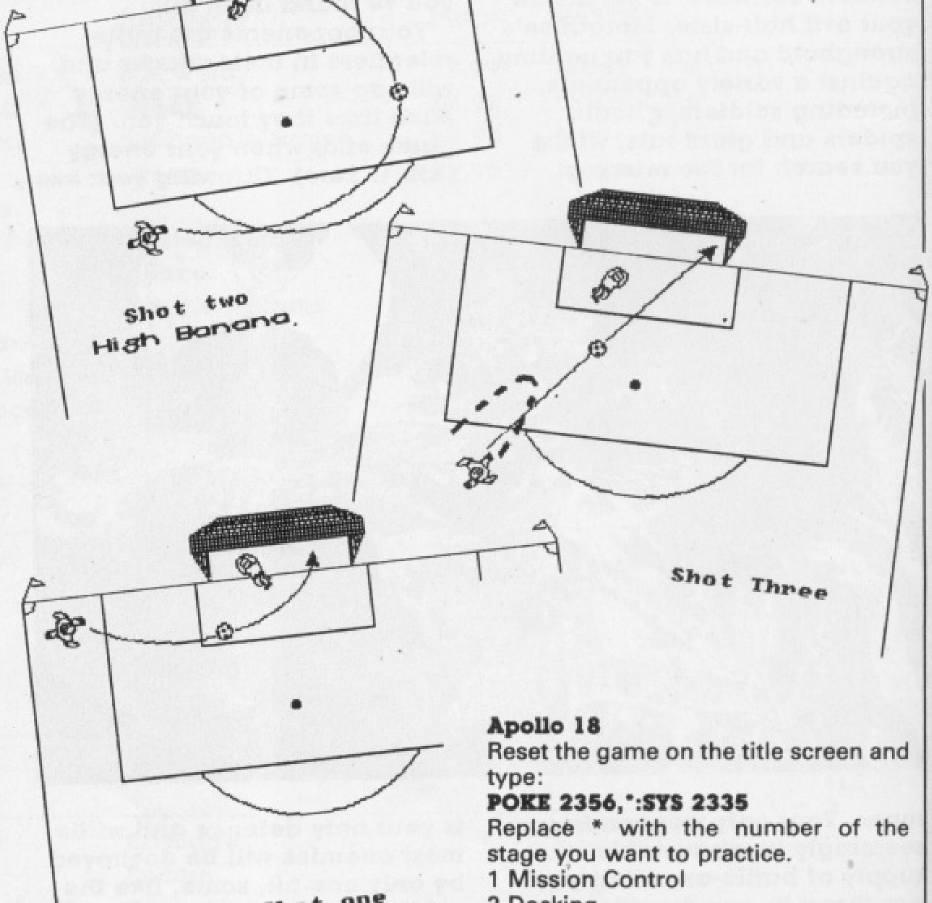
By the way, Christopher Meadows wrote to ask if the reset pokes are compatible with both tapes and disks. Yes, since the relevant parts of the programs are identical in both versions there is no reason why not.

Microprose Soccer

Shot 1
Banana should be set at medium strength. Stand a little way in from the corner flag looking towards the goal. Take a step forward and kick the ball at full power, bending it out and back into the net. Make sure you kick it before you get into the area to avoid hitting the post.

Shot 2
High banana power is essential to pull this one off. Take up a position at one of the two outer corners of the area. Run a couple of steps across the pitch and shoot the ball horizontally with a swerve towards the goal. This confuses both the goalie and defenders, leaving you free to watch the ball bend instinctively into the back of the net!

Shot 3
Run at the goal from the corner of the area and the goalie should come rushing out to meet you. Quickly turn and take a few steps away from the goal and towards the centre of the pitch before exiting the box the same way you came in. Now hit an overhead shot at full power which should sail into the corner of the net out of reach of the keeper. Try modifying this third technique when playing weaker teams whose defence will often give you time to line up a different shot.
Kiran and Rockey have supplied the following bucketful of cheats.



Apollo 18
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Replace * with the number of the stage you want to practice.
1 Mission Control
2 Docking
4 Course Correction
6 Lunar Landing
7 Eva, Moonwalk

continued from page 88

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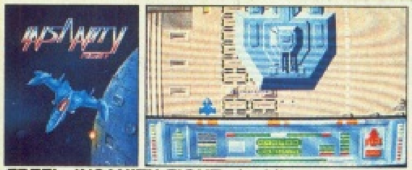
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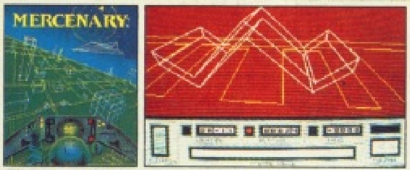
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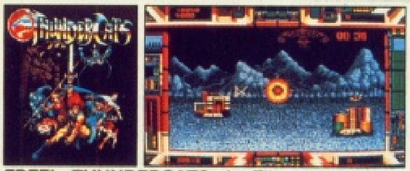
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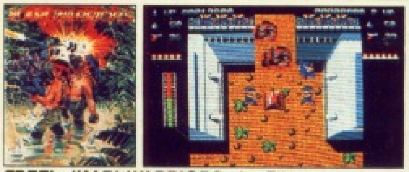
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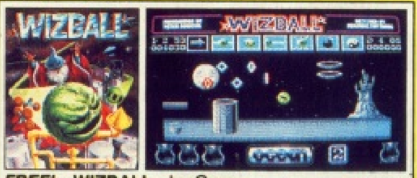
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Dept CCI 0289

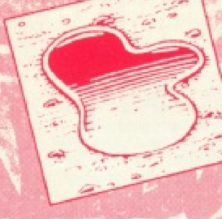
TIMES OF LORE

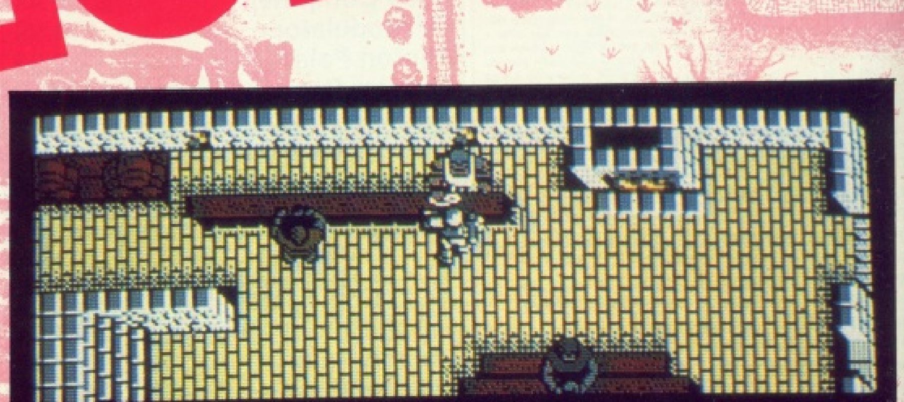
Origin's new game, brings together arcade action and fantasy role playing. Andy Moss, CCI's adventurer reports from the land of Alboreth.

MOST computer games players can normally be put into three distinct groups. You have those that like arcade shoot 'em ups, then there are the adventure players, and finally simulations, which normally means rewriting the Battle of Waterloo, or flying around in a Cessna single prop planet etc. Almost all arcade Players sneer at the thought of playing an adventure, and most of the time, adventure Players like arcade games just as much as lambs adore mint sauce.

There is, of course, your so-called "arcade adventure" which nine times out of ten is a platform game with movable objects. This is an adventure, because there is no real continuous storyline, nor is it an arcade game because there is not enough memory devoted to sonics and graphics because of all the Puzzles that have had to be included. I believe, for the first time (and I am discounting Faery Tale because it was originally 16 bit only) that in TIMES OF LORE Origin have at last bridged that gap between the two camps and produced a true arcventure. It has a strong plot that does indeed develop as you get into the game, there are plenty of interactive conversations with the characters and as a shoot-em-up dexterity test, it has high degree of zapping and hacking whilst you still try to pick up dropped objects around you. The scrolling graphics are a joy to behold on the 64, colourful and well drawn, giving you a bird's eye view of the action and the buildings in the land of Alboreth. If you want to be ultra-critical, you could mean that the game slows down a fair bit when there are more than three characters on screen at the same time, and certainly in some cases in the heat of battle this can prove quite frustrating, but when you look at what has been achieved graphically in Times of Lore, you learn to live with it — and with pleasure.

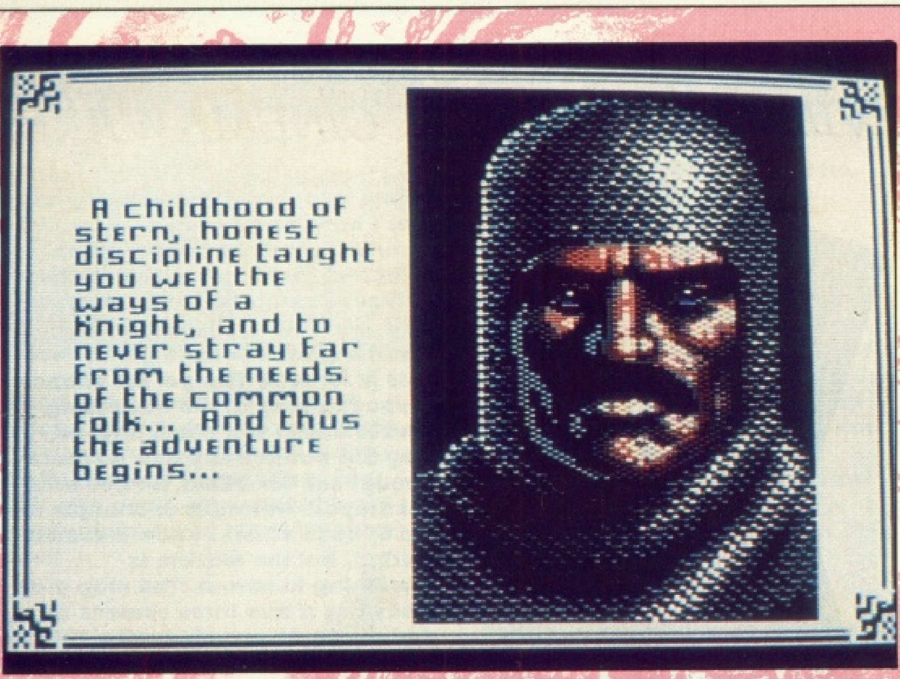
Lets look at the plot for a moment. Alboreth is a vast land of high mountains, great forests





Welcome to Times of Lore!

The innkeeper faces you and says, "Greetings and welcome to the Frothing



A childhood of stern, honest discipline taught you well the ways of a Knight, and to never stray far from the needs of the common folk... And thus the adventure begins...

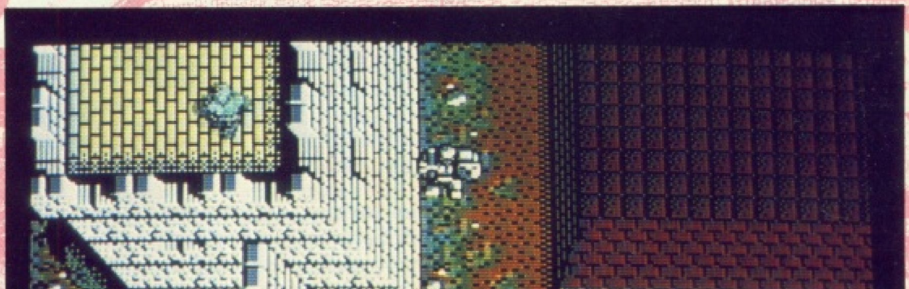
sprawling plains and deserts, with two principal cities, Eralan and Ganestor. There are four towns and two dungeons, all in a world that is 50X100 screens in size.

You begin the game in Eralan, where as a young novice adventurer you are keen to find the whereabouts of the High King who has been missing for twenty years along with his infant son. The land is now in turmoil and there is a Power struggle for control of the realm, monsters roam outside the towns, and orcs infest the forests with their barbarous foul ways. All in all things aint what they used to be, and it is time to set the book straight.

You start off in the tavern, always a good place to learn of rumours and clues and maybe pick up a quest or two. What you see on screen is a scrolling map in the top half that shows you as one of the three characters that you can choose from at the start. Under that is a message/text window and under that are various icons depicting actions like get, drop, examine, speak, use and inventory etc. Lastly, to the right is a candle which shows your strength, and when this reaches zero you are an ex-person. Obviously, it is in your best interests to keep this as high as possible, and fortunately, there are a number of ways to do this. Picking up and drinking bottles of elixirs that your defeated foes have dropped is one way. Resting over - night in taverns is another. This is also the method to save your current position by the way.

So you'er at the tavern, and sooner or later you will meet up with a monk, who has a quest for for you to find the Foretelling Stones, a national treasure that was stolen by a band of orcs who have a camp in the Dark Forest. This first quest, is more of a starter adventure for you to get used to the game, and it does not take long to recover the stones. This done you are then sent to the Regent who has temporarily taken over the throne. He then sends you to find The Tablet Of Truth from the castle of the marcher Lord Heldric. This is where the game proper starts, as you begin to realise that either Heldric is the bad guy, or else the Regent is up to no good. The plot from then on is fairly laid out for you to discover more clues as to your beloved Kings whereabouts. Suffice to say that by the end, you could be in for a shock about just who you really are!

All this gameplay has been converted for cassette, as well as disk which is a miracle in itself and with Martin Galways haunting melodies to listen to Times of Lore is a real good value product. Adventure and arcade enthusiasts alike should both benefit from a game that has always tried to be the best of both worlds. Highly recommended.
Personal rating 10/10
Price £24.95



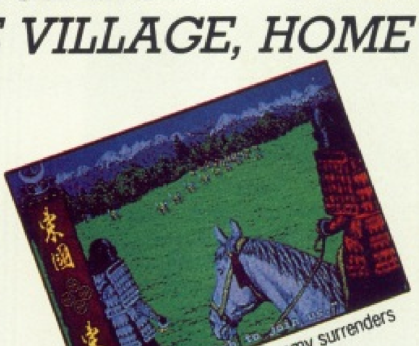
Welcome to Times of Lore!

DATELINE: LOS ANGELES . . . CALIFORNIA
PLACE: WESTLAKE VILLAGE, HOME OF CINEMAWARE . . .

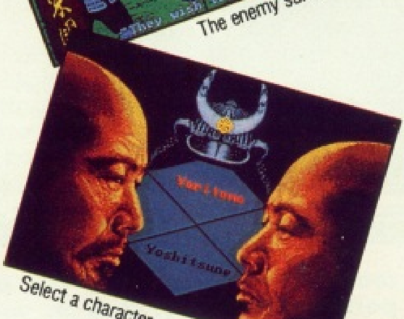
After my exertions in Boston and the fast pace of New York City, it was with a longing for the slow Californian way of life that I arrived in L.A. After building such an impressive reputation for quality stragegy games, in such a short space of time, I expected the Cinemaware Headquarters to be if not overflowing with hard at it programmers, then at least give me the impression that everything is being done at optimum capacity. No so. Bob Jacobs runs what I can only call, a highly professional relaxed company, where everyone who has a role to play, is left on his or her own to do just that. The games will be ready when everything is right, and if that means delays, so be it. At least the product will be worth the wait. Nestling in the hills around Westlake Village, Cinemaware is housed in a very tasteful modern office complex, with some beautiful landscaped water and bridge constructions running around the property. The team took time off to pose for me, on one of the bridges, and believe me, what you see as a happy outfit, is really true. They are all so laid back they nearly lean into last week. But talented? You bet. Taking me through the different departments, Bob radiates excitement (as always) about the technical capabilities of each team. The music and FX office is crammed with samplers and keyboards of every description, along with a few mixers and mikes, in fact they were putting the finishing touches to the TV FOOTBALL crowd noises while I was there. On to LORDS OF THE RISING SUN, and a demo was set up for me to look at. I can honestly say, that I have never seen such stunning graphics on any home computer that touches this. Huge battles are created before your very eyes, with hundreds of soldiers swarming over walls to get at you. This is for real. You get the chance to shoot arrows at the advancing hordes and if you catch anyone, they did wonderfully and lie there throughout the battle. Bodies even get draped over walls or crumple on top of each other. I know it sounds morbid, but the realism is something to savour. The map area measures a true three screens wide and scrolls as smooth as silk. This is going to be something to watch out for in '89 that's for sure.

From there it was on to the Library, where every single competitors' product is played and tested right through, so Bob can always stay one jump ahead of the field.

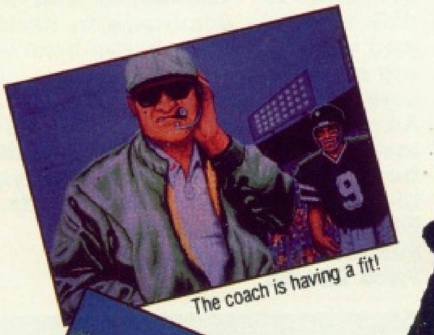
From there I was introduced to the Interactive video team, a new area for Cinemaware, and one that requires huge research and investment. The company is committed to exploring this route fully and has a two person facility working full time on it. At the moment they have one test video up and running, and it is in fact a real custom-made playlet using real actors and actresses, who depending on your keyboard input will conduct certain conversations. In the snippet I saw, you had to try and pick up different women using



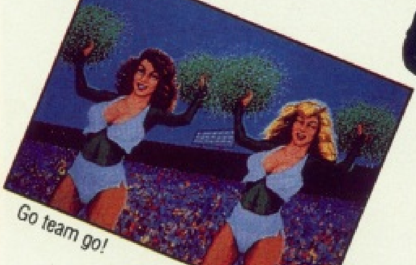
The enemy surrenders



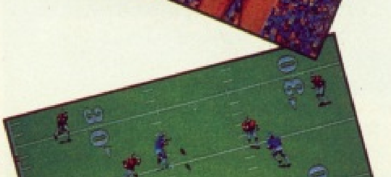
Select a character



The coach is having a fit!



Go team go!



He's wide open!

ture

BY ANDY MOSS

a choice of conversation pieces. Obviously the system is a bit crude, as it stands at the moment but the possibilities are fascinating. Just think, you could turn your video recorder into a real live adventure game!

With a quick look at the 64 version of Rocket Ranger, and some drawings for new products, we went off to lunch Chinese style, where I spent the better part of the time trying to convince Bob to do an English soccer game, the only way Cinemaware know how. Properly.

ADVENTURE NEWS

INFOCOM TRILOGY PACK PLANNED
Mediagenic have announced that an Infocom trilogy package entitled SOLID GOLD will be available soon. It will contain ZORK I, LEATHER GODDESSES, and HITCHIKERS. Priced at £24.99.

DUNGEON MASTER SOON
The cult game that everyone is talking about is soon to be available for Commodore owners who up until now have had to put up with Atari ST fans crowing about it. Great news.

TIMES OF LORE SEQUEL
Hot on the heels of their last hit, TIMES OF LORE creators, Origin, have a sequel nearly ready. However, this new one will not be available on cassette.

FISH BITING SOON
Mag Scrolls have told me tha the 64 version of FISH is about ready. First reports are good with the adventure containing bags of the usual Scrolls humour mixed with one or two puzzles. I refuse to write any fishy jokes as it is all too obvious and not on my scale of quality. Without carping, cod you see what I mean?

ADVENTURE LETTERS

ONE OR TWO INTERESTING LETTERS THIS MONTH, OF WHICH PRIDE OF PLACE MUST GO TO THE MISSIVE FROM AUSTRALIA WHERE THE GERKIN HAS SENT ME THE COMPLETE SOLUTION TO MANIAC MANSION. THANKS GERKIN, AND SEND MY LOVE TO YOUR SISTER.

DEAR ANDY
I don't know whether you thought my first letter was a hoax, but I have sent in enough hints and clues for anyone to complete "Maniac Mansion". My sister thinks that you're a spunk (what the hell is that!—ED) and she would be willing to stick a poster of you over her Mel Gibson poster anyday. What you have done for adventurers has helped me from numerous attempts of suicide. I hope my solution will help a few people, incidentally I completed the game using Dave, Bernard and Syd. My solution took ages to write so how about a prize for our efforts?
Yours sincerely, The Gerkin (with help from his sister)
Victoria Australia

Well Gerkin, thanks a million for your Herculean effort, and throughout the coming months I will put the clues into the column, 'cos there isn't enough space for it all. It is good people like you and your wonderful sister that show just how sporting us adventurers can be. Now on the subject of a prize, cast your eyes on the next letter . . .

Dear Andy
First of all I want to say that your column is one of the best, especially with your help from Zork. But when I read the Gerkin's letter, I was surprised. How can a fellow adventurer ask for a prize for the solution to an adventure?

I have also completed Maniac Mansion, and I will give the solution at the end of my letter. First I have some questions, how do I get the red sphere in Zork II, and what do I do with the sword in Tracer Sanction.
Jerome Keone Holland

Thanks Jerome for your clues and watch out for them soon. The answer to your Zork problem is simple. Get the robot to lift the cage for you, you have time if he is in the room with you. In Tracer Sanction, the sword is a red herring.

Dear Andy
I am a 16 year-old Norwegian Adventurer, with a little trouble. Bards Tale III. What is the answer to the riddle, "I have no lips yet my kiss is deadly, I am not a razor yet those I caress will never need shave again." I also think that role playing games are more enjoyable than pure adventure games. I own the complete Bards Tale series, and am waiting for Ultima V. Could you please help me or I will summon the dreaded demon Lord Killus of the lower planes. If you do not answer this letter I will summon all of my

cont. on next page

barbarians to come down to CCI and sack your mag.
Oysten Tvedten Norway

I am a peaceful man by nature but threats move me into uncontrollable rages that only pass if the enemy is bigger than me, and in this case a hoard of vikings is enough to anybody's temper yield. The answer to the first riddle is ICEBERG, and the second riddle is "death" (the kiss of death. Get it?) Only a mage can turn you into a chronomancer.

Dear Andy
After examining the enclosed photo, you will see that I have completed Bards Tale III (confirmed A.M.) I read that you will send a prize to anyone who finished it before you. I will settle for a years free subscription to CCI. Could you please print the English address of Electronic Arts, and print my name and address for anyone needing help or clues. Great column, keep up the good work.
John the Brit Skara Brae

John Graham Werstenerdorf st
181,4000 Dusseldorf 13 W
Germany.

I must say that the number of entries I have received regarding the finishing of Bards III has astonished me, and just proves to me what clever people there are in the world (or reading CCI!) that no matter what devious plots programmers put in games, people will always beat them. Electronic Arts address is 11/49 Station Road Langley Berks SL3 8YN England. By the way, one years subscription is on its way if I can convince the Publisher to do it for you John.

PLEA FOR HELP!! PLEA FOR HELP!!!!

★★★★★★★★★★★★★★★★★★★★★

THE LEE FAMILY FROM CROXLEY GREEN HAS SPENT MONTHS TRYING TO FINISH THE WITCH'S CAULDRON FROM MIKRO-GEN. THEY HAVE GOT HALFWAY THROUGH, AND SENT ME A COMPLETE MAP UP TO WHERE THEY ARE STUCK. AS MIKRO-GEN HAVE CEASED TRADING, THE LEES, ARE IN DIRE NEED OF ASSISTANCE. IF ANY READER CAN HELP, PLEASE WRITE TO ME AS SOON AS POSSIBLE. MANY THANKS.

BARDS TALE SOLUTION CONTINUED . . .

★★★★★★★★★★★★★★★★★★★★★

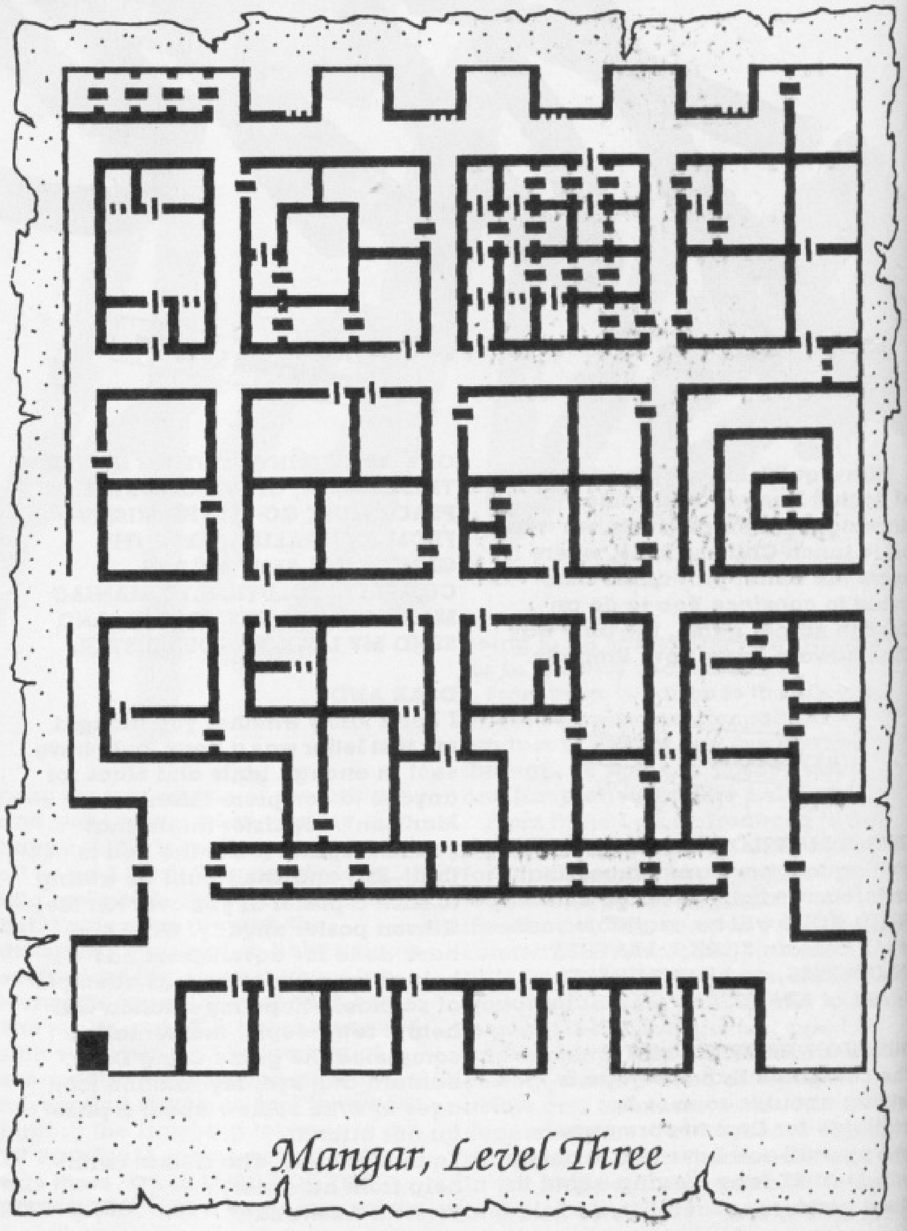
MANGAR LEVEL THREE

One by one, our noble group falls prey to the wizards servants. Magic Mouths and disembodied voices assail us at every turn, their messages too numerous to be set down here. I fear this may be the end of our quest. However, we have encountered a merchant! He offers us a key, which he claims is the key to both the gates of Kylearans abode, and Mangars. Do we believe him or not? Desperate, we pay his high price, and continue on, at least finding the answer to the magic Mouths. We must seek the Mouth that asks us to reveal the answer, and say "lie with passion and be forever damned". We find the mouth in the southwest section and upon us uttering the answer, stairs are revealed slightly to the northwest of the mouth and we ascend.

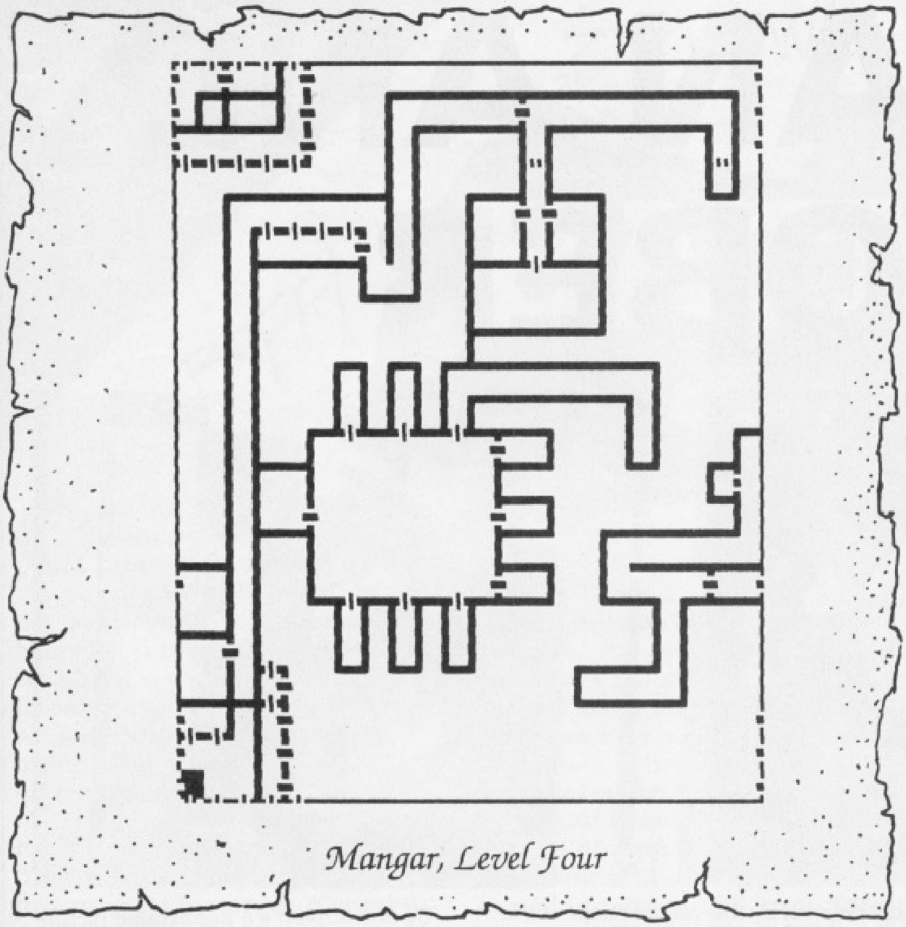
MANGAR LEVEL FOUR

We feel we are near the end of our quest. We have entered hell and the demonspawn and mutants brood of undead things that do battle with us freeze our souls. Grimly we fight on, the five of us who remain. We are asked to name the greatest son of Odin and we answer correctly, getting a small statue as a prize. Soriac tells us this will help us in battle, have our prayers been answered?

We are teleported to the north west region of this level where suddenly all the walls turn into doors, and all the doors into walls! We proceed west and are teleported once more. We try many doors until we find the portal in the extreme south west, and it is here we find the entrance to the uppermost level of Mangars castle. We commend our souls to the Gods and for one final last time . . . ascend . . . TO BE FINISHED NEXT MONTH.



Mangar, Level Three



Mangar, Level Four

ADVENTURE REVIEWS

DEATHLORD
ELECTRONIC ARTS £14.94
If ever there was a rip off of the Ultima concept, this is it. Every, and I mean every bit of any Ultima game is included in this game, apart from one third. The complexity and depth of Ultima cannot be copied only the cosmetic look and feel of the classic. Deathlord in essence is Ultima I say, the same overhead view, the same stick like characters, and the same towns and cities. Your goal in the game, is to identify and defeat the source of evil loose in the world of Lorn. If you succeed the Emperor of Kodan will reward you handsomely with untold fame and riches. To do this you need to find objects and clues scattered around Lorn in the various dwellings and towns throughout the land.

Signs on your travels will provide you with leads, but the most beneficial way to improve your knowledge is to converse with the people. Mayors or Sultans always provide useful info whilst fellow travellers are also wordly.

The game has an oriental feel to it, some of the monsters have Japanese medieval names like Kosaku etc, but I suspect the true answer lies in the fact that the main programmer is David Wong.

Worth getting if you prefer Ultima clones, but a low mark from me due to the unoriginal concept.
PERSONAL RATING 4

ULTIMA V
ORIGIN £14.85
Enough of the pretenders to the throne, here is the real McCoy at last. Ultima V Warriors of Destiny is Lord British's biggest and most long awaited game yet, he has reworked the plot and gameplay so many times in order to perfect his work that the game has been delayed countless times. Here it is, and on four double sided disks. There is enough for even the most dedicated adventurer who has about a year to do nothing but play the game. The game boasts some impressive improvements over previous Ultimas, like improved graphics, new animated monsters, over 200 characters with conversation interaction, 20 towns to explore some with as many as five levels. I found the improved graphics to be really only minor adjustments to the playing characters and some more colourful on screen maps. The plot is centred around your return to Brittania after becoming an Avatar in Ultima IV and returning to the real world again. Back in Brittania the discovery of a new underworld entices Lord British to explore its vast reaches only to lose all contact with the outside world, and become cut off from his party. A lone survivor returns to Britannia and tells of the expedition's fate. In a desperate attempt to find the good Lord, you are summoned back by your old friends Shamino and Iolo. This outline is in fact graphically shown in a series of pictures relating to the tale. After that it is into the game proper, and what a pleasure it is to get straight into Ultima instead of having to copy any disks first. In the box comes a very well produced cloth map of Britannia, and The Book of Lore together with the silver codex you earned as an Avatar.
PERSONAL RATING 10

LANCELOT
LEVEL 9/MANDARIN £14.99
This has got to be history in the making, no pun intended, as this must be the first release from Level 9 with which I have been disappointed. Apart from the awful Adrian Mole departures. Sorry lads, this one is well down on the scale of excellence that you yourselves set. Not only are the graphics extremely poor quality, but the whole adventure plods along as if someone has lost interest half way through development. As Arthurian legend is Pete Austin's forte so we are led to believe, I find it hard to think that the person who lost interest is him. Maybe the split with Mandarin was while Lancelot was being coded, and it was rushed out to make way for another project. Who knows? All I can say is that Lancelot as an adventure is an average yarn through the famous stories surrounding King Arthurs Round Table Knights and notably the quest for the Holy Grail. You start as Lancelot before he was knighted, and in fact the first part of the game is taken up with you finding your way to Camelot (which is practically done for you) and meeting Arthur so he can do the necessary. After that, it is a faithful following of history which includes the Ladies Guinever and Elaine, Merlin and Mordred and all the regulars at Camelot.

Sorry boys, one for the bin.
PERSONAL RATING 2

THAT'S IT FOR ANOTHER MONTH, CHECK OUT OUR NEXT ISSUE FOR THE FINALE TO BARDS TALE AND A REVIEW OF SOME MORE DIY ADVENTURES AND NEUROMANCER AND A LOT MORE.

CLEAN AND SOBER

Daryl Poynter's life has suddenly taken a turn in an unexpected direction — downward.

Investments that Daryl has made with the $92,000 he borrowed are showing rapidly diminishing returns. The woman he shared both drugs and bed with has yet to wake up and police have asked Daryl to hang around just in case she never does.

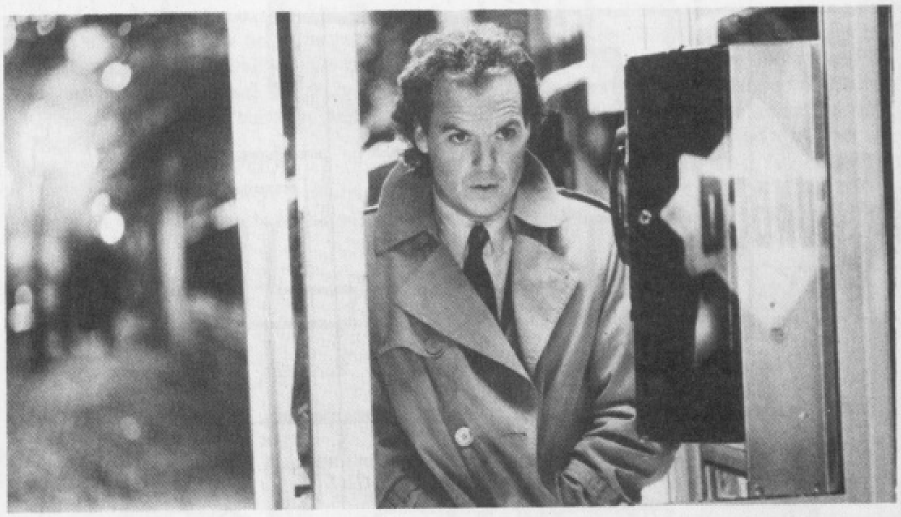
What Daryl desperately needs is a place to go where no-one can find him until things calm down a bit.

A fortuitous flip of the radio dial provides Daryl with just the temporary haven he seeks; a chemical dependancy centre with a twenty-one day detoxification programme that promises total discretion as well as complete privacy. Of course, Daryl is *not* an addict, or so he says and those poor souls enrolled in the programme may not have the self-control to use drugs and alcohol on a strictly recreational basis but that certainly doesn't have anything to do with him . . .

His encounters with the staff and patients at the centre, however, have a surprising side effect. Daryl Poynter slowly realises that the immediate physical pains of drug withdrawal are somewhat easier to cope with than the emotional and physiological changes taking place.

Daryl Poynter is played by Michael Keaton who last appeared as 'Beatlejuice' in the film of the same name. There is an extreme contrast between these characters and I was surprised to find Keaton's transition between roles so effective. He is rapidly and actively establishing himself as a talented and deservingly popular actor. His performance as Daryl is forceful and convincing while highly entertaining. We'll be seeing a lot more of him.

Dealing with the subject of drug abuse and addition, Clean and Sober is undoubtedly a film appropriate to this era. However its effectiveness in provoking concern and awareness is limited, I believe, by the very concept of the movie itself. How do you make a film combining aspects such as comedy, romance, suspense, heroism and jealousy while also highlighting very serious issues like alcoholism, drug abuse, depression, helplessness, isolation, killing and death? Well, quite frankly, you don't, or at least this film has not competently done so. Clean and Sober is a film which does attempt to cream off both angles at the expense of its potency.

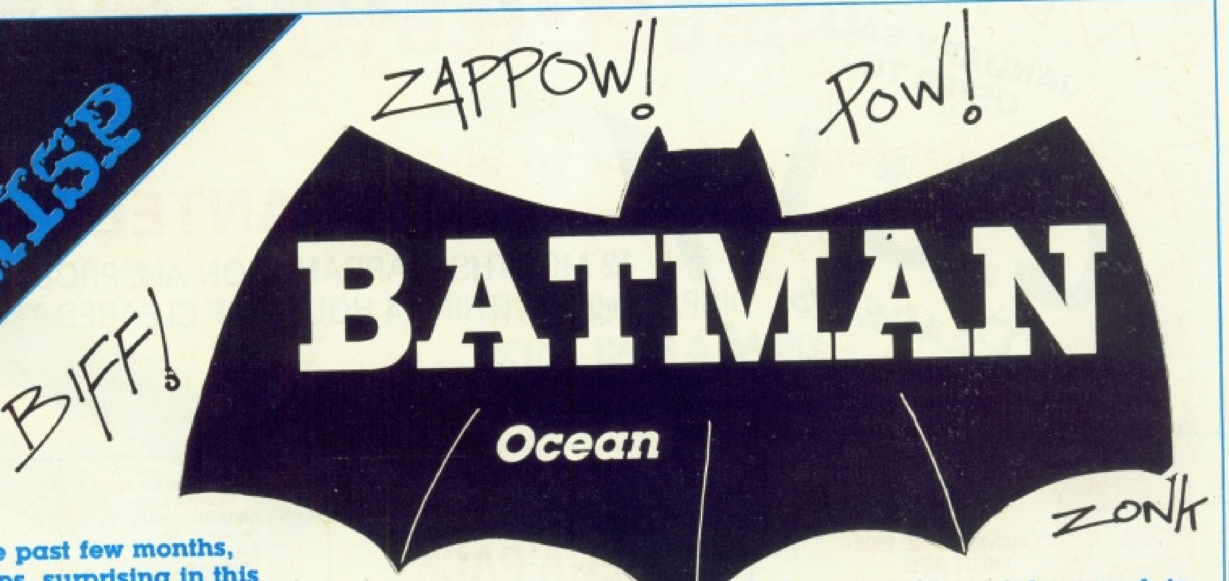


By and large it's a predictable picture and somewhat long. On two occasions I was expecting it to end and the climax itself was rather stale and feeble. However, Clean and Sober was frequently enjoyable, occasionally moving and modestly provoking. Micheal Keaton gives a champion performance which tends to hide the darker aspects of the movie. Arm yourself with enough popcorn to last the time and you'll enjoy it!

A.D.

C64

CRISP


ZAPPOW!
POW!
BIFF!
ZONK

BATMAN

Ocean

Over the past few months, perhaps, surprising in this hardening cynical age, the popularity of Batman, he of the wide-eyed innocence and integrity, has grown a great deal. No doubt with this in mind, Ocean have released their second Batgame, and once again have gone for an arcade adventure.

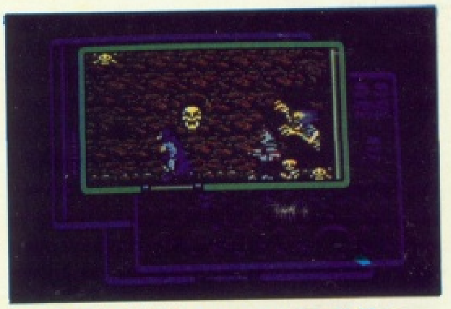
The player gets the chance of two independent adventures. In the first, The Penguin has set up an umbrella factory as a cover up for a plan to take over the world with an army of robotic penguins (computer games do ask strangly for what is called a suspension of disbelief don't they?). The second option has you searching for Robin who has been kidnapped by The Joker.

Both are played in the same way but the locations and puzzles are different in each. It begins, as most of Batman's adventures do, in the Batcave. Despite the rows of computer terminals you see before you, there is very little you can make any use of. What you need to look out for are the yellow boxes that symbolise useful objects. Pick one of these up and you can slip it into your utility belt for later. All locations are displayed in windows that vary in size from almost a full screen to mere portholes. When you leave a screen, the next is overlaid while the ghost of the old one is still partially visible around the edges. This makes an interesting change from the usual flip-screen or scrolling backgrounds and adds a comic book look to the game.

Once outside the security of the Batcave, The Joker and The Penguin's henchmen await you around every corner. Some of them are very well drawn and animated, sporting a pair of slacks of which Nick Faldo would be proud! Teaming up with these are the numerous mechanical mechanical killer toys, the bombing planes, the laser-firing locos and the deadly Zebedees. True to this image, Batman carries no fire arms. Instead your initial defences come in the form of a punch, a sweep kick and powerful high kick. Soon enough you find the Batarang that helps stun the baddies for a little longer.

Object manipulation plays a big part in the game. There are a lot of handy gadgets and everyday objects to be found, some of which just make things easier, others are essential to the completion of the game. I'm not too sure whether the mix of beat 'em up and adventure works as well as it could, partly because of the high demands made in both areas.

Unfortunately there is one oversight that puts a damper on things. That is the absence of a save game facility. It can be very frustrating to have made your way through a good deal of the game, only to have to go through the whole thing again once you get killed. I did find a way around this using my Action Replay cartridge by backing up the game at key points. Even so, it could not have taken much to have included such a feature into the game, and would have made it far more playable.



Special FX programmed the game and have done a great job with the graphics, especially inside The Joker's fun house. All the sprites look just as they should, recreating the character of the originals with hint of humour. Some of the backgrounds are murkily coloured but in general are well detailed.

I thought more could have been done with the sound. The music is not bad but the way it restarts from the beginning each time you use your utility belt makes it more repetitive than it need be. A funkier remix of the Batman theme would have gone down well.

All in all, Batman will please arcade adventurers and is only let down by its lack of a save option, though I still think there is a lot more potential for a more arcade oriented Bat-game than has yet been achieved.

T.H.

Graphics: 89%
Sound: 63%
Playability: 68%
Overall: 70'%
Rating: CRISP
Price: £9.99 (c)
£14.99 (d)

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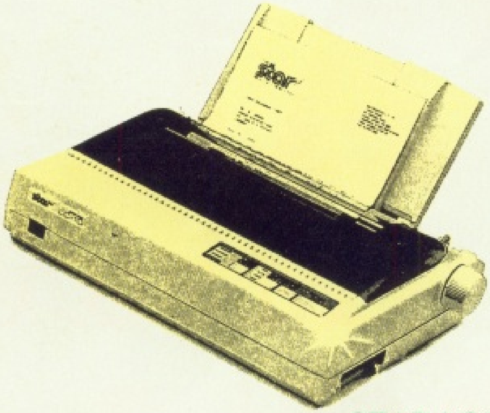

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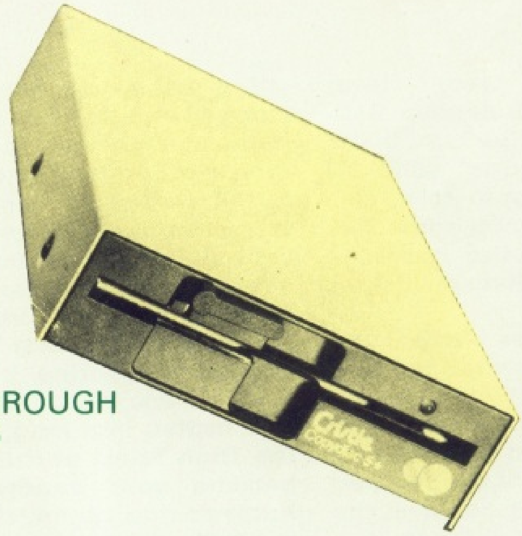

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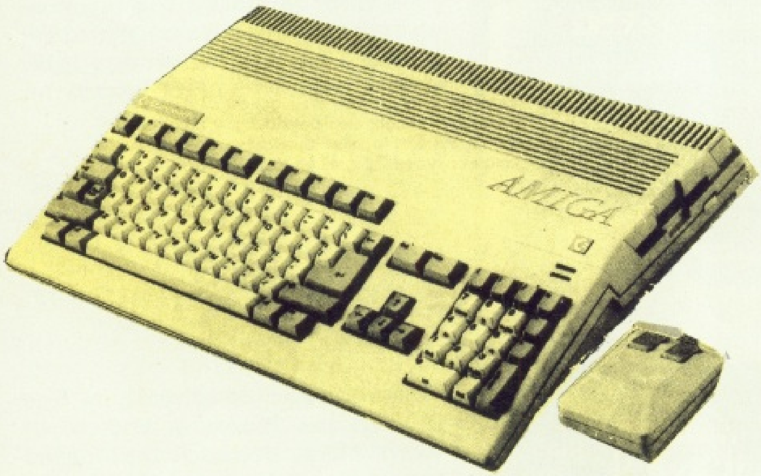

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Skyfighter
Gridstart

Incentive

TOTAL ECLIPSE

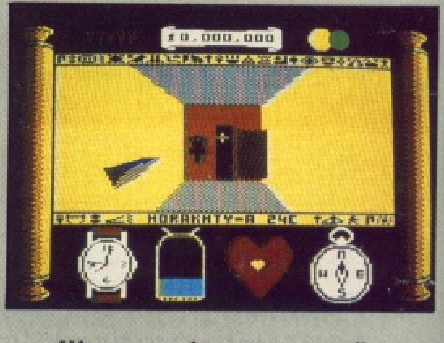
MEGA

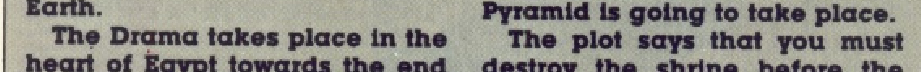
From those very clever people at Incentive Software comes the third in the series of "Freescape" solid 3D adventures. Closer to home this time, rather than on some distance planet in the universe, you find yourself here on Mother Earth.

The Drama takes place in the heart of Egypt towards the end of October 1930. You play the role of an English Archaeologist who has been sent to reach and destroy the shine of the Sun God Re. The shrine is located at the very top of the Great Pyramid.

You have just landed your clapped-out Sopwith Camel biplane at the base of the pyramid after a rather long and exhausting three day journey. The sun is hot and time is already running out. In just two hours, a total eclipse of the sun over the Great Pyramid is going to take place.

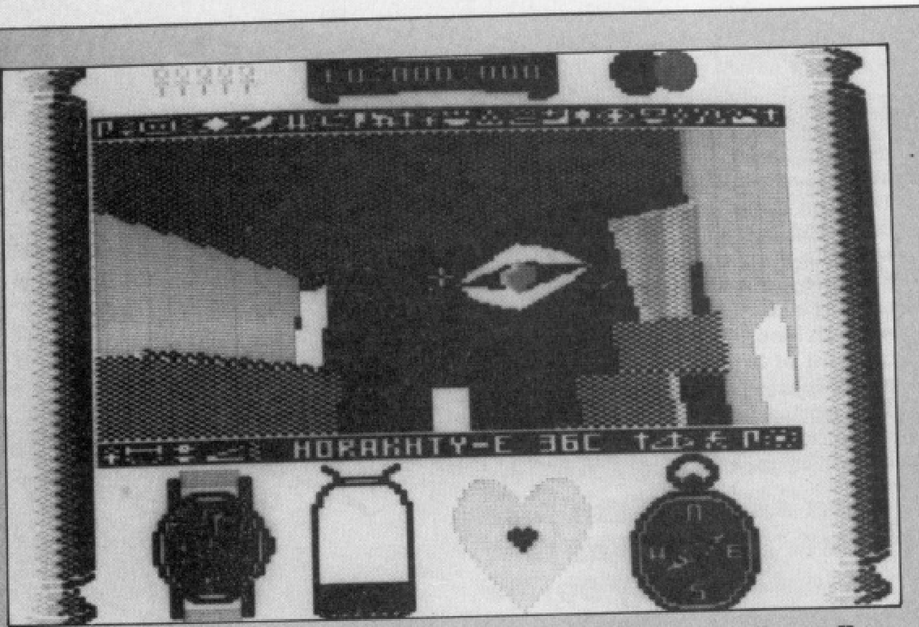
The plot says that you must destroy the shrine before the eclipse blocks out the sun. It was written that long, long ago the High Priest of the day had become very annoyed, (probably couldn't get past Amethist in Driller!). His people were revolting . . . (no comment) . . . because they were fed up and refusing to continue making sacrifices to the Sun God. One day his anger erupted so the High Priest set a curse. "Should anything ever block the sun's rays from reaching the topmost chamber in the Great Pyramid, during the house of daylight, the offending object would be destroyed."





> *"The speed the screen refreshes each frame is somewhat slow but a price worth paying for the 3D effects."*

The offending object in this case is the moon. A shower of destructive, colossal meteorites would rain down on the earth. Destroying the moon would

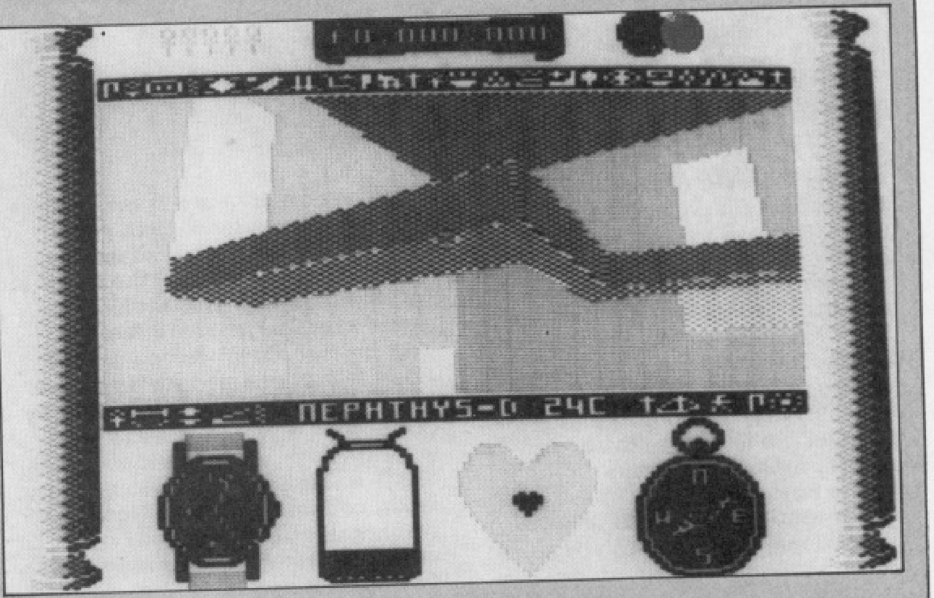


have major ecological results. The balance would be upset plunging civilisation into long periods of drought, starvation and conflict. . . What's new? My aerosols have been doing that for years!

Anyway, you have to get to the top-most chamber inside the pyramid in less than two hours, and destroy the shrine, before all that happens. If you are familiar with the other "Freescape" adventures then this one is similar again, but different enough to keep the attention of the hardened "Freescape" adventurer. To the uninitiated, "Freescape" displays you view of the surroundings in good old 3D solid shapes. Moving in and around, over or under, the carious objects. The speed the screen refreshes each frame is somewhat slow but a price worth paying for the 3D effects, a brilliant piece of programming that uses every byte available in the C64.

> *"Great gameplay requires you to climb from 24 cubits up to the shrine level of 72 cubits."*

Back to the plot. You are armed with only a revolver with which you'll need quick reactions and cunning brains to solve each puzzle as you encounter them. There are rooms with locked doors that need keys to be found for them. Your wrist watch displays the time ticking away. Thirst is a real problem with the heat so finding water to keep you going is essential. Your compass is your directional aid and you must make a map of your progress to assist you in solving the puzzle.



Your heart rate is also monitored, the faster you go the faster your heart beats and it becomes critical so you must rest to stop yourself from having a heart attack! Great gameplay requires you to climb from 24 cubits up to the shrine level of 72 cubits. All the time there is pressure upon you to complete the mission as quickly as you can. Displayed at the top of the screen is a visual reference of the passage of the moon outside travelling across the face of the sun to reach the total eclipse. Egyptian antiquities can be collected along the way as a sort of monetary reward for your labours, as you collect these a total of money earned is also displayed so leave no stone unturned. Looking over and under objects or shooting at them. Find secret panels and dodge the poison darts or trapdoors. Don't panic, try to stay cool! Oh er! I want my mummy!

There is a little Egyptian type music playing constantly in the background but can be turned off if necessary and there is the usual essential local and save menus. As a follow-up to "Freescape" in outer space with "Driller" and "Dark Side" this comes as a nice bit of arcade adventuring closer to home.

Total Eclipse requires total concentration and total commitment but gives total satisfaction. Thanks again Incentive.

B.C.

Graphics: 80%
Sound: 75%
Playability: 82%
Overall: 80%
Rating: ***Mega***
Price: £9.95 (c)
£12.95 (d)

DECISIVE BATTLES OF THE

Rainer Gellert gets enjoyably embroiled in marching through Georgia and other warring states.

At the start, the American armies were little more than untrained militia, clumsily trying to copy the European military systems. Four years later these same armies were a match for any European army, from the new tactics that evolved in their need to fight, desperately, the American Civil War.

Decisive Battles of the American Civil War (Volume 1) attempts to recreate the atmosphere of that unique and terribly bloody conflict. In order to achieve this, SSG has abandoned the 'Battlefront' wargame system and specifically created 'Decisive Battles Game System', which is considerably more flexible and even easier to play.

At the start of each game, you can specify 2 player or computer, enhanced computer player (for masochists only), points advantage, or change the General's names (for that little ego boost). You can also st a 'radio' flat and an 'exposed' flag which determines if orders can be given to all units or divisions, and if all enemy units are to be visible, which can totally change the level of realism and the atmosphere of the game.

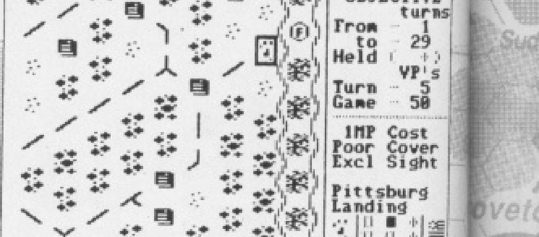
The basic units used in this game are Brigades, each with its own named commander, experience level, etc. Brigades are then grouped into divisions, with their own commander. Orders given out to divisions, or to individual brigades, and depends on the distance of the brigade or division HQ from the General's HQ (unless you cheat by setting the radio flat). Orders can be given to all division HQs first thing in the morning, to simulate the nightly briefing which would have occured.

Divisions can be ordered to take objectives and defend them aggressively, or just defend them. How well this is done depends on the individual division commander, who also handles the combat divisions for his (no female commanders then!) brigades. Division commander orders can be changed by the main HQ if the brigade is in communication. Brigades can skirmish, assault, advance, or withdraw in combat with an enemy unit, and the usual amount of information is given about losses and hits. Units can also be surprised by enemy units, stopping them from moving or attacking for one turn.

> **"You soon realise just how hard it was to control an army before radio was invented."**

If the exposed flag is not set, then unit sighting becomes important. Each hex on the map is given three variables: movement cost, cover, and sighting. Sighting of enemy units is also affected by the weather and time of day. This makes the game seem much more realisitc, and much harder, as you do not know if that enemy unit down the road is alone or being followed by ten others, and you have to plan your strategy with little knowledge of the enemies location or size, and when compounded with dodgy communications with your commanders, you soon realise just how hard it was to control an army before radio was invented.

The enclosed manual is quite different in content from other SSG manuals. The introduction is good, and the intro tutorial is better than in the 'Battlefront' series. The description of the game menus and general routines is immensely detailed, informing you of all the calculations that the computer makes in order to decide combat results, sighting or communication. In places it looks more like a programmer's notebook, and is not really necessary. Plain, general information on tactics, combat, and how to win like in their other



```
 6 APR 1862
Time  -  6am
Turn  -   1
  of  -  29

 OBJECTIVE
      turns
From  -   1
  to  -  29
Held
        VP's
Turn  -   5
Game  -  50

 1MP Cost
Poor Cover
Excl Sight

Pittsburg
Landing
```

AMERICAN CIVIL WAR *Volume 1*

manuals would have been far more welcome. The manual also fails by giving no information on the Civil War or the scenarios in general. The only information given on each scenario is the orders of battle (list of different brigades and sizes). The atmosphere of a wargame is normally supplied by the manual, and this game is let down in this respect. The manual also describes the design routines, which allow you to change the scenarios or to create your own ones, and is up to standard, but no hints on interesting changes as in their other manuals.

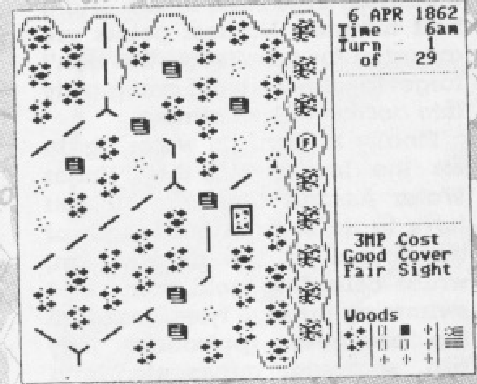
One good thing is that you can 'map walk' from practically every menu, which can save a lot of time in deciding which orders to dish out to the brigades. Orders are given employing simple menus, which are quick and easy to use. Another novel addition is the ability to change the publicity profile of your general, from cautious to herioc, which affects how much you get personally involved in the conflict and thus can be a big boost to all the brigades close to the HQ and affects combat. On the negative side, the HQ is immobilized and non-functional for that turn, and there is a greater chance of your general being wounded or killed!

All the units also have a cohesion value, which represents how weary that unit has become, and can greatly affect the outcome of a battle. It is generally reduced by combat, and increased by putting the unit into reserve, which also helps the unit get to full strength with new recruits as replacements. For once putting units into reserve is a useful tactic as the unit's strength recovers quite quickly, instead of the eternity it took in the 'Battlefront' series.

> ***"You can concentrate on the overall game strategy, or issue orders to each individual unit, or take over when a disaster happens on the field."***

TERRAIN KEY
OPEN/ FARMLAND
WILDERNESS
MAJOR RIVER
RIDGELINE/ ROUGH
F
FERRY/ FORD
RUGGED WOODS
P
PONTOON BRIDGE
TOWN/ HAMLET
MARSH
ROAD
CORNFIELD
RIVER
ORCHARD
BRIDGE
WOODS
FORD

The flexibility of this game is impressive. You can order any unit to do practically anything, or you can let your division commanders do the worrying while you control them. The extent of your involvement is up to you, so you can concentrate on the overall game strategy, or issue orders to each individual unit, or take over when a disaster happens on the field. You can also change anything using the design routines, even change the shape of the game icons!



```
6 APR 1862
Time  -  6am
Turn  -   1
  of  -  29

 3MP Cost
Good Cover
Fair Sight

Woods
```

I was generally impressed by the wargame, which counters everything I hated in the 'battlefront' series. Unfortunately the manual is way below the standard of the 'battlefront' series, and for me has spoiled an otherwise excellent wargame. If you buy this game then get a good book on the American Civil War to get the best out of it. You might try to read the classic novel 'Red Badge of Courage' by Hart ???? for the right kind of atmosphere and there are libraries of non-fiction on this much-written about struggle. Such knowledge will certainly help you enjoy this well-created game even more.

R.G.

C64

IFFY

SUPERSPORTS

Gremlin

SO, you thought that the Olympics were well and truly over for the next four years, eh?

Wrong! Gremlin Graphics have chosen this rather unusual time of year to release their "alternative" version of the Games, called "Supersports: the alternative Olympics".

Your guide appears in the top left hand corner of the screen and asks you to select your character from a rather seedy-looking group of individuals. These range from a Frenchman, (you know he's French because he is wearing a black beret and has a large moustache), to a chap that looks remarkably like Desperate Dan! Having chosen your player and named him, you are offered the option to play one game only, or all of them in sequence.

The first game is called "Crack Shot" and is set in an alley. In this you have just one and a half minutes to shoot anything that you can get into your gunsight. This includes some very shady-looking characters that appear at windows or walk out of doorways, a target that rises up from a manhole and a collection of objects that are "thrown" in from the side. The only thing you mustn't shoot is the alleycats.

Next comes the "Dare Devil Dive". Climb up a tower to your chosen height (40ft.-400ft.) and dive off. On the way down you have to perform as many "tricks" as you can, whilst still maintaining your accuracy into the tub of water at the bottom. Tricks can include end-overs, spirals, swallow and pike dives and others. Points will be awarded for skill, style and accuracy.

Moving on, its the "Slate Smash"! Only one minute is allowed here and in that time you have to smash as many slates as possible. The slates are held up by Sumo wrestlers standing either side of you and you have to use a succession of punches and kicks to smash the slates out of their hands. Points are awarded for speed and the degree of difficulty for the move that you use. Moves include high and low kicks, kneeling and double punches, spin and split kicks.

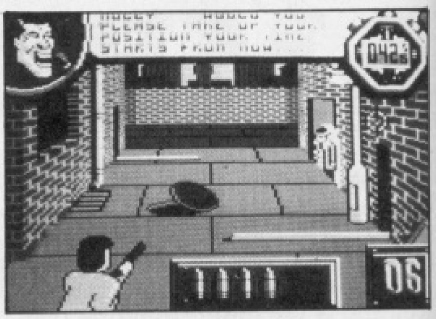
> *"The slates are held up by Sumo wrestlers standing either side of you and you have to use a succession of punches and kicks to smash the slates out of their hands"*

After the frantic efforts needed for the slate smash, you move on to the more peaceful sport of "Cross Bow" shooting. You have to load and fire a total of six bolts, over three distances, in one and a half minutes. Highest points are awarded for a bullseye, but don't forget to take the wind and gravity into account when aiming.

Finally its back to water again for the last event, the "Under Water Assault Course". All you have to do is swim the length of the course as fast as you can, whilst collecting gold coins and swimming through tyres. Avoid all the obstacles, (poisonous jelly fish, seaweed, mines etc.) and don't forget to surface for air occasionally!

At the end of each event, points are awarded and the current scoreboard is shown.

The commentator, appears in the top left corner of the screen, with comments such as "What a rotten shot!" or "You'll have to do better than that!'. He also serves to introduce the various games, each of which is set in a different Country. In England for the "Cross Bow", he starts with "What ho!" whilst, in Japan for the "Slate Smashing" it's "Harro!"



PLEASE TAKE UP YOUR
POSITION YOUR TIME
STARTS FROM NOW...

Each of the five games is loaded individually but you must decide at the beginning whether you wish to use joystick or keyboard control. The screens are reasonably well-drawn and in most cases the sprite movements are quite adequate, but overall I must say that I was totally unimpressed by "Supersports". I can't help feeling that I've seen it all before. The claim on the packaging for a "collection of unique" events is certainly NOT justified. The only "event" that I hadn't seen before was the "Under Water Assault Course".

There are many, many of this type of program on the market and I feel that if you are going to compete with those that are already available, then you should at least equal them in quality and content. In my opinion, "Supersports: the alternative Olympics" fails on both counts.

N.S.

Graphics: 52%
Sound: 30%
Playability: 44%
Overall: 42%
Rating: Iffy
Price: £9.99 (c)
£14.99 (d)

C64

DODGY

BY FAIR MEANS OR FOUL

Superior Software

Graphics: 22%
Sound: 16%
Playability: 36%
Overall: 28%
Rating: Dodgy
Price: £9.95 (C)
£11.95 (D)

Boxing simulations in the past have not really impressed me too much due to their simplistic gameplay and boxing's own lack of potential variety in a computer game. Some boxing fans may despute that but I have yet to see a computer version that proves the contrary. Superior Software, however, have tried putting a twist into the usual boxing game to make it that little bit more interesting and fun to play. The twist I am referring to is the cheat facility which allows the boxers to foul each other if the ref has his mind on other things.

The general idea of the game is to defeat the six opponents who become increasingly more resilient until you make, if you are even more so, World Champion.

Unlike other boxing simulations, in this you have a lives system. When all your five lives are lost the game is over and a password will be given to you if you have improved on your last game. This password will be given to you if you have improved on your last game. This password can then be used in later games to save you fighting the opponents you have already defeated. A two player option has been included so that two players can box each other at the same time.

Play is viewed from a side on position allowing your boxer to move from left to right on the screen. There are the usual boxing moves such as the body blow and uppercut, but the foul moves are the main attraction of the game. The control method is entirely by joystick, moving it in different directions and with or without the fire button pressed enables you to make the individual moves. To inflict a foul move on your opponent you must do it at the right time just when the referee is not looking. In both corners of the screen are silhouettes of boxers, these changes colours according to the ref's concentration on the game. The colours range from red (the most dangerous time to foul) to green (the least dangerous) with a few colours in between.

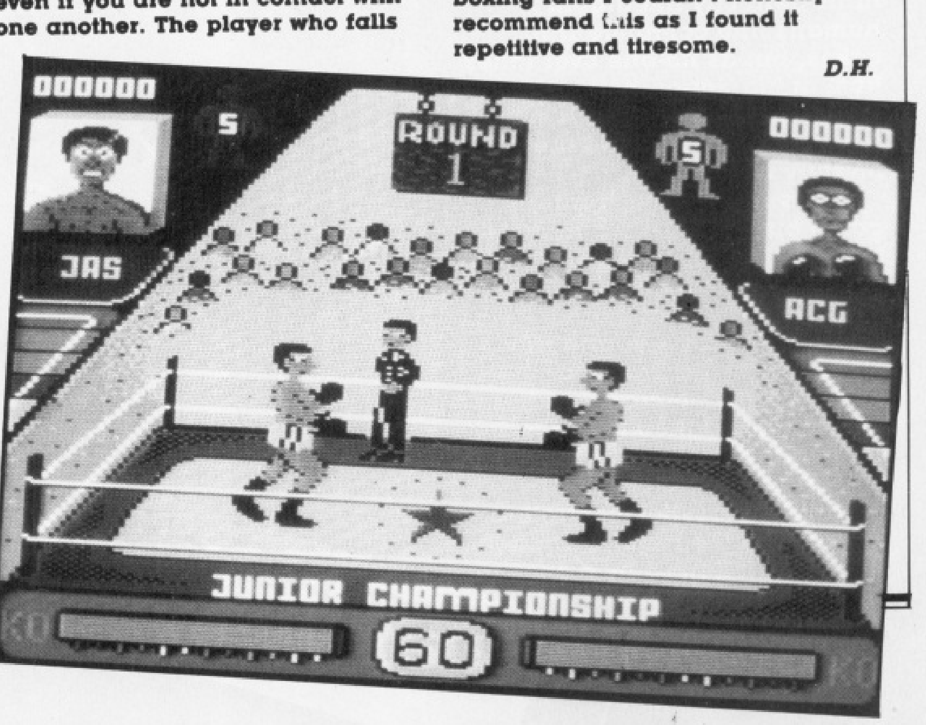
If you commit a foul move when the silhouette is red the ref will see you and deduct one of your lives. This seems to be a very harsh decision because the colours often seem to change from green to red without any warning. The foul moves, which seem to be the centre of the games attraction, do not work at all well because it is not worth the risk of the ref seeing you and losing a valuable life. Even if you do manage to hit your opponent with a foul move, his energy bar only goes down the same amount as it would if you struck him with a legal move.

At the end of each round you or your opponent will fall on the deck, even if you are not in contact with one another. The player who falls down is the boxer with the least amount of energy who then in turn loses a life. If you defeat a boxer you will then progress to the next one who will have a higher rank. Having done this I was disappointed to see that the only change in the next boxer was is colour, and these colours are very crude and unimaginative.

The practice mode is a complete waste of time and has barely anything to do with the game. Each time I went into the practice screen it crashed when I tried to get back to the main screen, and therefore I had to load the whole game up again.

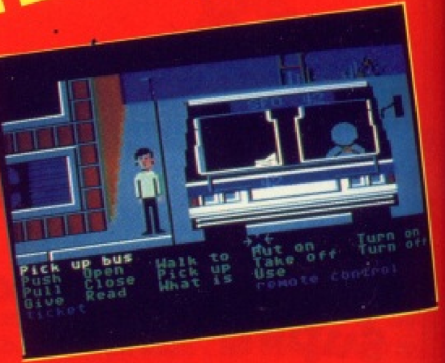
I am not sure which is worse, the sound or graphics. They are both of a very low standard, the only sound fx were a few sparse noises which do not resemble any realistic sounds. The graphics are badly drawn and have only a couple of sprites. Even to the most keen boxing fans I couldn't honestly recommend this as I found it repetitive and tiresome.

D.H.



ZAK MCKRAKEN

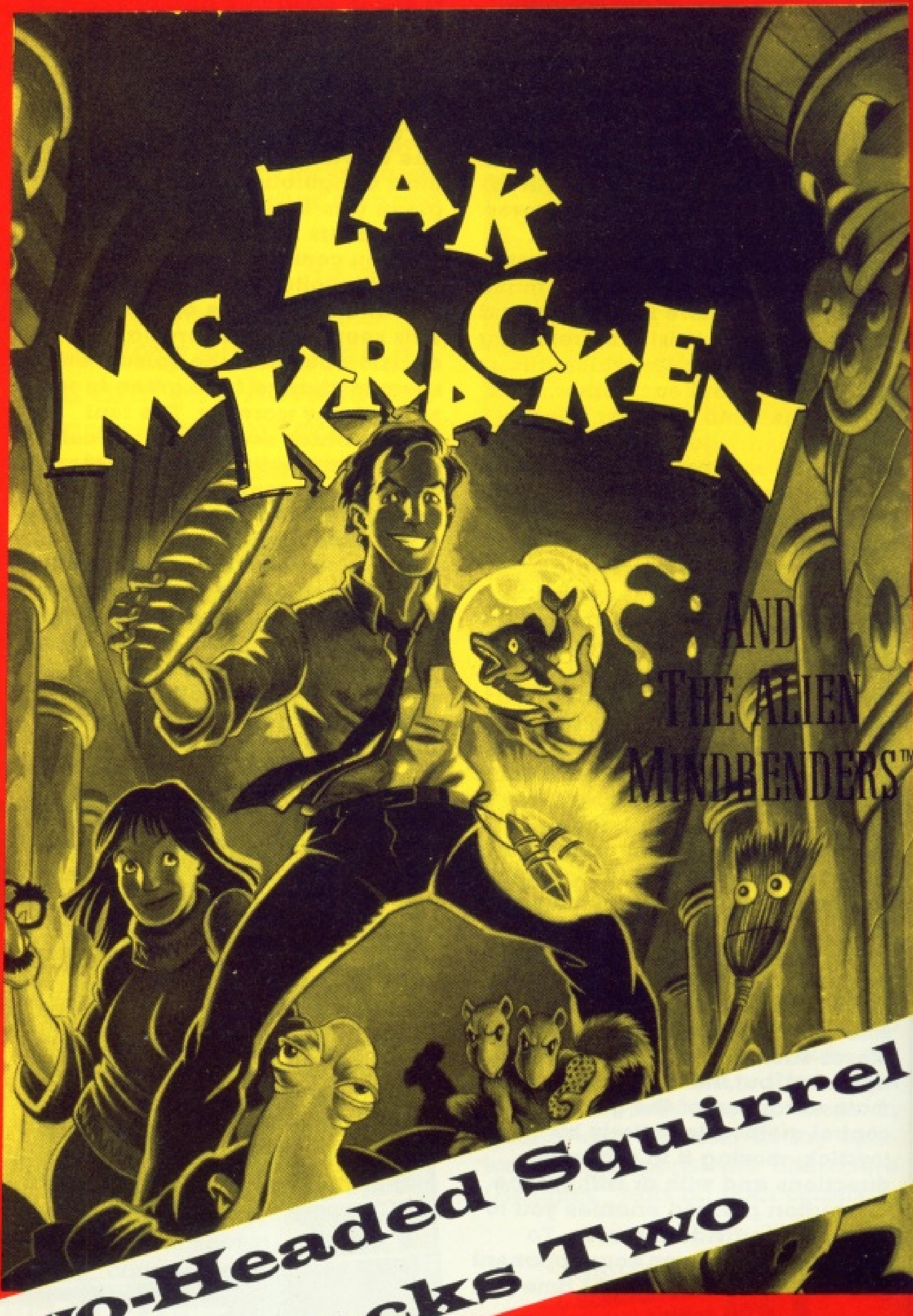
LUCASFILM GAMES



Don't you just love sitting back in your favourite armchair after a good Sunday lunch and reading about the latest celebrity scandals and alien encounters in the Sunday Sport or some other ghastly tabloid? Of course you do! Oh yes, you might hide it in your CCI but do you ever spare a thought for the poor souls who have to invent those often totally lying stories?

Zak Mackraken is a "reporter" for The National Inquisitor, no doubt a reference to the most notoriously, untruthful publication The National Inquirer. He regularly supplies alien invasion stories for the front page. The trouble is, his latest piece about an extra-terrestrial plot to take over the world is actually true! They have fitted a device in the nation's telephone system that turns perfectly intelligent humans into complete fruit cakes, but as no-one ever takes him, or his stories, seriously, the only thing for him to do is search out the real solution to the mystery himself.

Zak is really an adventure game but is presented in a form that will attract a lot more than just the hardcore adventurers. Each location is drawn in pseudo-3D with Zak and any other characters walking around it. The bottom third of the screen is taken up by the commands available and any objects you are carrying. Moving the joystick-controlled cursor onto the required action selects it, followed by a click on the relevant object in the picutre or from your inventory list. The fairly small vocabulary does limit your actions a little, but the inclusion of the versatile "use" command helps make up for this.



Two-Headed Squirrel Attacks Two

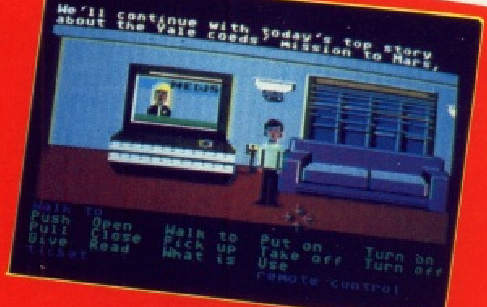
Worldwide Stupidity Epidemic Link To Space Aliens In Phone Company.

You begin in the bedroom of your flat. There is no limit to how much you can carry, so the best idea is to strip the place of everything you find, and you do need to look very carefully for some things. Your first problems include turning on the TV, waking up the bus driver and finding your essential cashcard. The game does not present you with too many brick walls, so it is easy to get the feel of it before you have to do any serious puzzle solving. Once your get your things together and shake some life into the bus driver you can get down the airport. From here you can shuttle back and forth between a number of locations around the world.

The game is full of details that keep you interested when all your attempts seem to come to nothing. Zak refuses to leave the flat without turning off the taps and the TV, or closing the fridge for example. There are also occasional scene-cuts to the alien mothership to keep you informed of their progress.

Mainly due to all those interactive graphics, it is only available for disk users. There is enough in Zak Mckracken to keep adventure fans puzzling for hours on end, and the inviting graphical style will mean it is just as appealing to the more mainstream gamers, and I liked it so that must say something for it. Try it, you might well find it opens a new kind of gameplaying (yes, I am sorry but it may mean using your brains, but you'll find Zak McKracken will be worth it).

T.H.



```
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about the Yale coeds' mission to Mars,

Walk to
Push   Open    Walk to   Put on
Pull   Close   Pick up   Take off   Turn on
Give   Read    What is   Use        Turn off
ticket                   remote control
```

Graphics: 69%
Sound: 45%
Playability: 82%
Overall: 80%
Rating: MEGA
Price: £14.99 disk only

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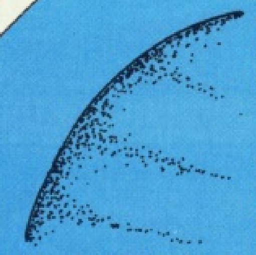
C64

CRISP



S.D.I.

Activision

Strategic Defence Initiative S.D.I., sounds like one of those really intellectual games for which you need two brains to take part. However, it is actually quite a straightforward game. Ronald Reagan isn't quite the spring chicken he once used to be and now is the time for him go leave the presidentcy, but who will continue his 'Star Wars' plans? George Bush? No way! You, of course, with the use of a very effective satellite with some extremely powerful lasers to fight off the oncoming missiles.

The dreaded nuclear war has started and now is the time for you to put your satellite into action. Suddenly, missiles come hurtling out of nowhere and you must destroy them before they reach the Earth. This is by no means easy, because there is only one of you fighting off numerous nuclear weapons. Your satellite can be controlled around the screen in the usual way, but to fire your lasers you have to aim your sights on your target keeping your finger on the fire button while bolts of light dart through the sky.

The action is viewed in space with scrolling planets making up the scenery. Missiles come in all different shapes and sizes from all sides of the screen which must be destroyed. If certain missiles hit your satellite a life will be lost, but if all the weapons are got rid of, a duck at the end of the stage will appear and award you with 20,000 bonus points.

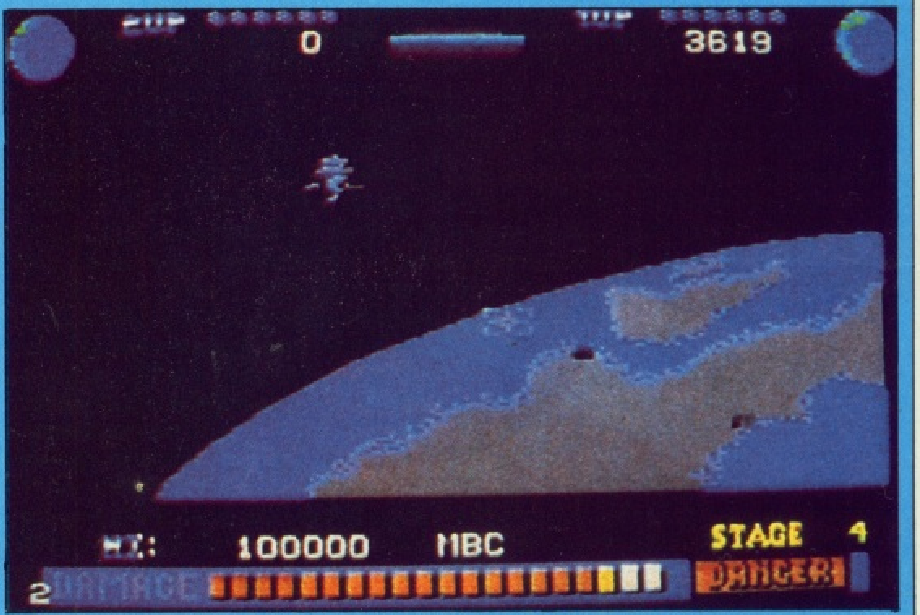
You have to be careful not to let any offensive weapons go untouched because if you do you will have to defend your planet in a special stage. In this stage, the visible planet is shown stationary — not scrolling — at the bottom of the screen.

There are twelve levels in all, getting harder and more frantic as you progress through the game. The levels of difficulty are well balanced, being easy to get into the moment you pick up the joystick and harder and more challenging the further you get. An energy bar at the bottom of the screen shows how many — if any — missiles have got through. If a considerable number are let through the bar will reach the top and the game will be over.

Not being a great fan of the arcade version I can't really say if it has been converted well, but from what I have seen in the arcades it looks very similar. The play is fast and because of the progressing levels makes the game quite addictive.

The game does lack a little colour (especially the explosions) mostly using dark tones, and the graphics could do with some more variation. The sound on the title screen is acceptable but no more as are the sound effects, but both could have done with a livening up to improve the atmosphere. On the whole an addictive and fun game but not really enough in it to make it one of the greats.

D.H.



Graphics: 66%
Sound: 63%
Playability: 69%
Overall: 65%
Rating: CRISP
Price: £9.99 (c)
£14.99 (d)

C64

CRISP

SUPER DRAGON SLAYER

Graphics: 64%
Sound: 68%
Playability: 62%
Overall: 65%
Price: £8.95 (c)

Code Masters

EVER had that sudden urge to slay a few dragons or hack your way through a flock of hybernating dodos? You have? Well now's your chance to satisfy that urge with Code Masters first in a new upmarket (for them) range of games, Super Dragon Slayer.

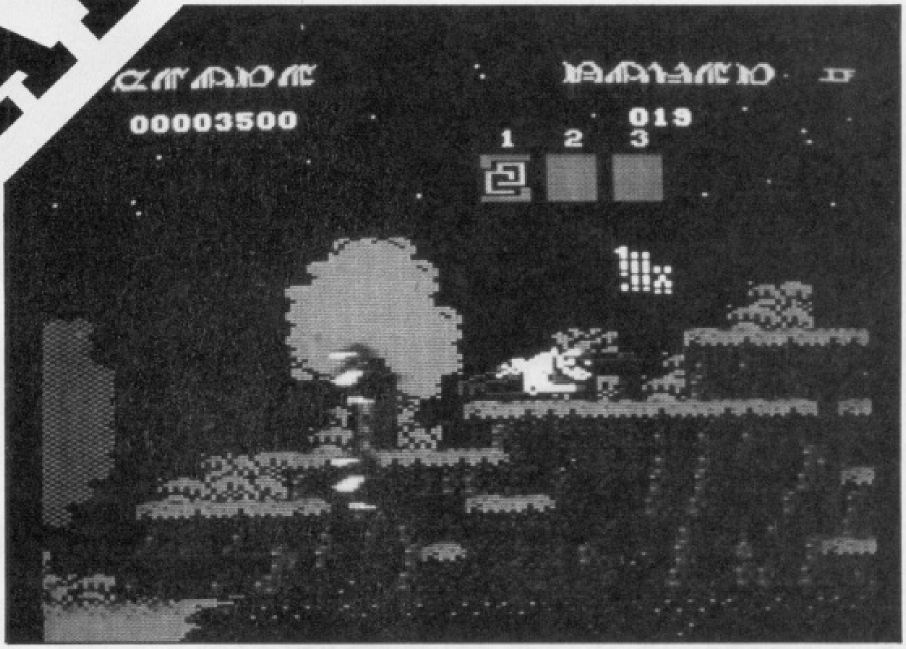
Code Masters, one of the leaders in budget games, have chanced their arm in the fast lane with their first full price game. The package interestingly includes two tapes, a standard version for the beginner and an expert version for the more experienced player.

As the story usually goes, you play the part of a brave and fearless knight and set out on a journey to free a beautiful princess. On your travels you will encounter lots of nasty creatures which you must kill or be killed. Such beings include swooping skulls and little gremlins that pop out from beneath your feet. All too much to take single handedly, do I hear you cry? Well, you are also kitted out with some very effective spell power to help you fight off the hoards of aliens.

The screen scrolls from left to right with aliens coming from all directions to make your mission ever more arduous. The controls are quite simple. You can walk left and right, shoot by pressing the button and jump vertically in the air. Some creatures cannot be destroyed, so the best thing to do is leap on to one of the many branches that you come across and wait until they pass. If, however, there are no branches on which to take refuge you could use a special spell which acts like a smart bomb. These special spells include, extra leap power to help you cross holes in the ground. Invincibility and flying power are amongst others that you have to work out for yourselves.

All of these spells are activated by pressing keys 1-6 during the game. This can be very awkward at times, because by the time you have reached over to the keyboard and activated a spell you could have been killed by any of the aliens; very annoying.

Instead of having a lives system you are given a bar of energy which is depleted each time you are hit. When the bar runs out you are dead. Energy can be gained by killing the aliens, which also boosts your score.



The backgrounds change on each level — four in all — and from what I saw I wasn't too impressed. There was nothing really new in the style of graphics apart from one exception, the main sprite which was well-animated especially when jumping in the air. Sound too was in no way novel with mediocre music.

The twin cassette was a good idea but I feel it needed something more to make it worthwhile. Super Dragon Slayer would have made a first-class budget game but at the price it is little more than an average arcade adventure of too high a price.

D.H.

C64

CRISP

Domark

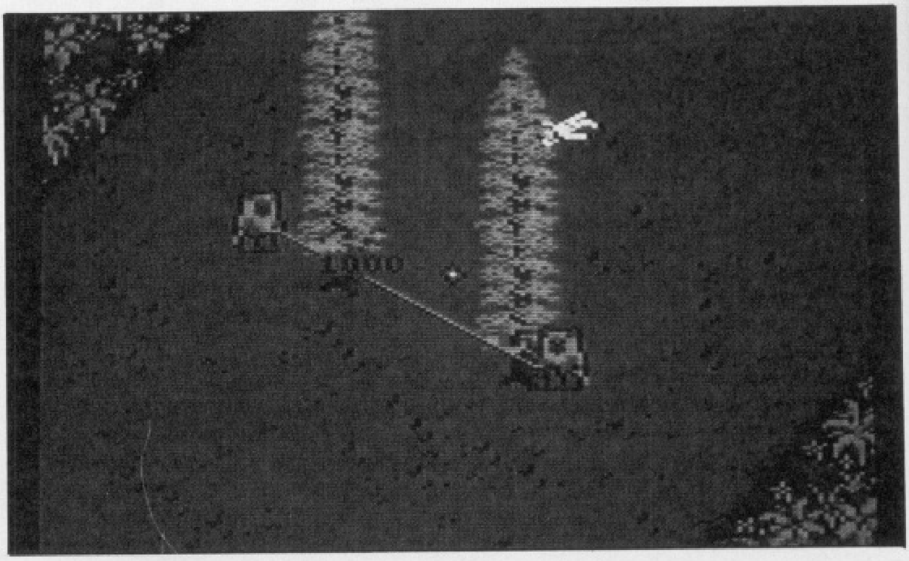
RETURN OF THE JEDI

Following the recent disappointments of Domark's Star Wars and The Empire Strikes Back comes Return of the Jedi. Unlike the first two conversions, Return of the Jedi has no vector graphics and is played in quite a different way. Instead of flying your Millenium Falcon through mile upon mile of stars and black holes, your mission, should you accept it, is divided into three sectors each having slightly different ojectives involved.

If you have seen the film you will no doubt know the scene when Princess Leia races off on her speedbike dodging trees and other enemy bikers. If you haven't it is quite straightforward, all you have to do is speed through the forest of Endor and try to reach the end before hitting a tree or getting run-down by enemy speedbikers.

On this the first, and possibitly the best stage, the screen scrolls diagonally from the top right to bottom left. The trees have been drawn to a reasonable standard but the sprites of the speedbikers remain rather lifeless and plain with poor sound effects.

The second and third stages have you controlling Chewbacca in his Scout Walker avoiding rocks that are hurled at your from catapults from the side and logs that roll down the screen, eventually reaching the bunker where Han Solo is ready and waiting to deactivate it. During this scene the action swaps from Chewbacca in the Scout Walker to Lando in the Millenium Falcon fighting off deadly T.I.E. fighters.



The different waves are all very well but do they vary enough? I am afraid, no, is the answer. You find yourself playing the next stage but behind the different graphics lies almost the same game and no new techniques are needed. The varying stages are good fun to play for a while but seem to be a little shallow in the long run.

At the beginning, in stage one, the Ewoks (you know, those little fury things) lay traps out in between the trees which are supposed to help you kill the enemy. However, they are more of a hinderence than a help because they always seem to backfire on you.

Jedi's graphics are neither good nor bad just okay with a nice title screen but nothin too amazing in the actual game.

The most impressive graphics were those on the first stage with smooth scrolling and an effective feel of speed.

Return of The Jedi would have made a nice stocking filler for younger players if only the price had been a little lower. I get the feeling that it has not got enough depth or challenge to interest the more advanced gamer. If you were a fan of the classic film then maybe you should consider this game, but don't expect too much from it, you'll only be disappointed.

D.H.

Graphics: 58%
Sound: 43%
Playability: 69%
Overall: 60%
Rating: CRISP
Price: £9.95

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VISA

A QUESTION OF SPORT

Elite

For those of you who have never seen "A Question of Sport" (there surely can't be many!), two teams of sports personalities have to answer questions on their sports and other sports, put to them by the quiz-master. The questions are divided into different rounds, which can be anything from guessing the name of a sportsperson, from a photo taken at an odd angle, to watching a price of sporting action that suddenly stops, then having to describe "what happened next".

As the game loads, you are asked whether you are playing a one or two-player game, and what your specialist subject is. You then select your other two team members, remembering to select those who will compliment your specialist subject.

There are six rounds to play; Pictureboard, Mystery Personality, Home or Away, What Happened Next, Quick-Fire, and finally, another Pictureboard round.

"Pictureboard" is an individual round, with each team member being asked to select a number from a board. The number selected will highlight to reveal an Olympic-type sports symbol for the sport the question will be about.

In "Mystery Personality", each team is given three clues to guess who the question is about. The sooner you guess, the more points you score. Next comes "Home or Away" and is another individual round. Each team member is asked if he wants a "home question" about your specialist subject, or an "away question", which will be about a different sport. "What Happens Next" speaks for itself. You will be given the outline of an event, then four possible outcomes. You have to select the one that actually occured.

The next round is "Quick-Fire", and here you have to answer the given question correctly before the opposing team does, to get the points. But, be careful, answer wrongly and your opponents get the points instead. The last round is the pictureboard again. Select from the remaining squares and answer the questions.

All of the questions are shown in the form of a "word balloon" with text in a very large, clear font, scrolling across it at just the right speed for comfortable reading. The answers are selected from a multipe-choice type menu.

There is more than one set of questions available. Different sets may be chosen during loading, just after the team selection stage. The questions themselves seem to be of a very high standard and cover a wide variety of sports. Some are very simple indeed, though others really make you think and if you give a wrong answer, you don't get to see the correct one!

Apart from that, "A Question of Sport" has obviously been well thought out and planned, covering all of the most popular aspects of the TV show, and is a game that I would recommend to anyone who has got bored of shoot-'em-ups and is now looking for something that will exercise the brain, rather than the trigger finger!!

N.S.

Personal Rating: ***8***

---

continued from page 64

HORGAN'S HINTS

8 Lunar Lift-off
9 Eva, Space Walk
11 Re-entry

Ghostbusters
Enter **ANDY** as your name and **777** as your account number.

The Empire Strikes Back
Start the snowspeeder and hold down the spacebar with **B,N,M,J,K** and **L**. Now press RUN/STOP to start with unlimited shield power.

Brainstorm
Load and reset the game before typing:
POKE 18281,173
SYS 16384

Netherworld
Press **2,4** and **E** together to complete the current level.

Road Runner
Reset the game and enter:
POKE 52413,76
POKE 52414,203
POKE 52415,204
This allows you to move anywhere on the screen. Run along the foot of the screen and the computer thinks you're collecting seed, giving you thousands of points and extra lives! Then again you could try this for infinite lives:
POKE 43241,36
SYS 4126 starts the game.

AMIGA

The Empire Strikes Back
Start the game and hold down the HELP key. Now type **XIFARG ROTKEV** (Vector Grafix backwards) including the space. Use the number keys to play the sampled speech from the game, and press **L,D** and **C** to bring up pictures of Luke, Darth Vader and C3PO.

Jason Haymer sent me a load of 64 pokes but unfortunately they have all been included in past issues. Still, here's one from him for Amiga Carrier Commanders.

Carrier Command
To take over the island (Thermophlae) in an "action" game, load up a Manta with two missiles on each side and three in the middle. Launch and fly to the opposite side of the island, then fly in at top speed firing violently at the enemy command centre. This will free the island and only take about thirty seconds.

Send all your cheats, maps, pokes and all the rest of it to me at the following address, now!

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Every now and again a home computer game comes along and changes the face of the whole market. . . Dungeon Master has now done it for the Amiga, so says Wayne of GM, the top role playing game magazine. The so long awaited Dungeon Master has finally arrived.

DUNGE

After having played — and finished — Dungeon Master on the ST, I awaited the release of the Amiga version with bated breath. Knowing the Amiga'a superiority over the ST in the areas of graphics and sound, my imagination was all fired up and ready to play!

The first thing I noticed was that the Amiga packaging is identical to the ST version. Included in the well illustrated box is a double sided disk, a keyboard chart and a 28 page storybook, which sets the scene for your adventure.

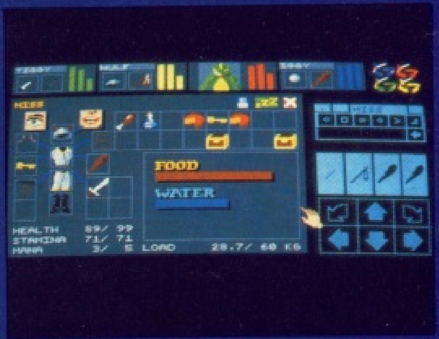
The storybook tells you that you will play the part of an apprentice to a master wizard who — due to a rare case of foolish enthusiasm — has unleashed his altar-ego into the world.

> *"Only by entrapping Chaos in a magical flux cage can you unite your master's persona, enabling him to stop the works of Chaos and restore balance to the world."*

This nasty piece of work is called Chaos, and its main aim is to destroy civilization as you know it, by plunging the world into a permanent ice age.

In order to stop this, you must enter a dungeon, take control of a group of four mortal champions who have failed this mission before, locate the fabled Firestaff and use it on Chaos.

Only by entrapping Chaos in a magical flux cage can you unite your masters persona, enabling him to stop the works of Chaos and restore balance to the world.

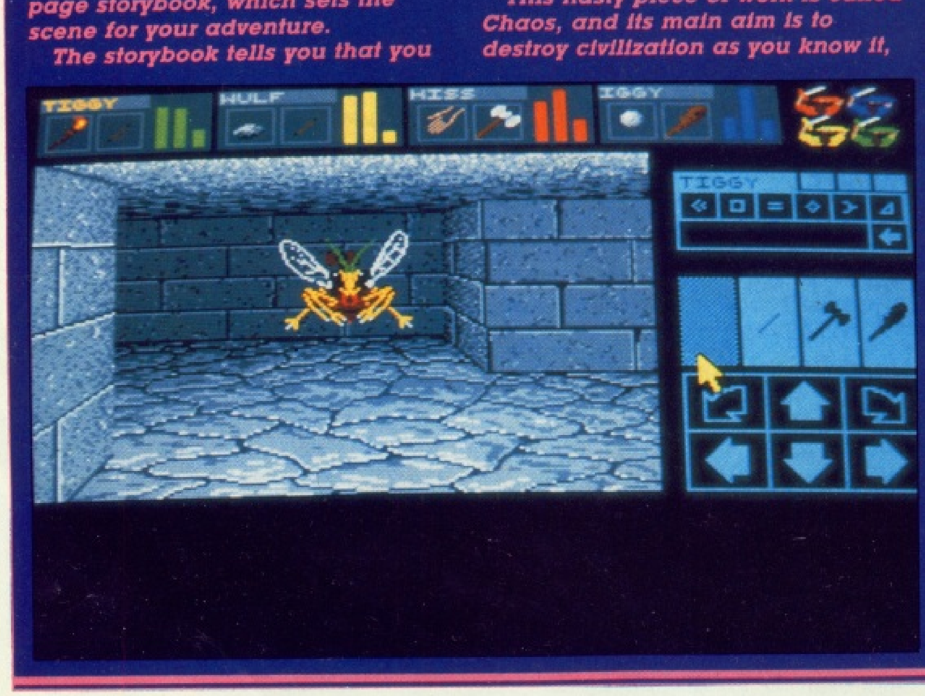


After you finish reading the story, you are gently lead into the 26 page rules section. I used the word 'rules' loosely, as you will find that there are very few genuine rules involved in this game at all! It's clearly a 'learn as you play' affair.

From the minute the dungeon doors open, you know you are in for a treat. The sound is very realistic and the graphics are simply amazing. You soon realise that your first aim is to create a party of four adveturers. You do this in a similar fashion to Legacy Of The Ancients — examining a wide selection of the champions, imprisoned in pictures hanging from the dungeon walls.

The selection of characters available is incredible. You can populate your party with ninjas, priests, wizards, fighters, yetties, barbarians, and even a sort of evil undead.

The champions have all the



ON

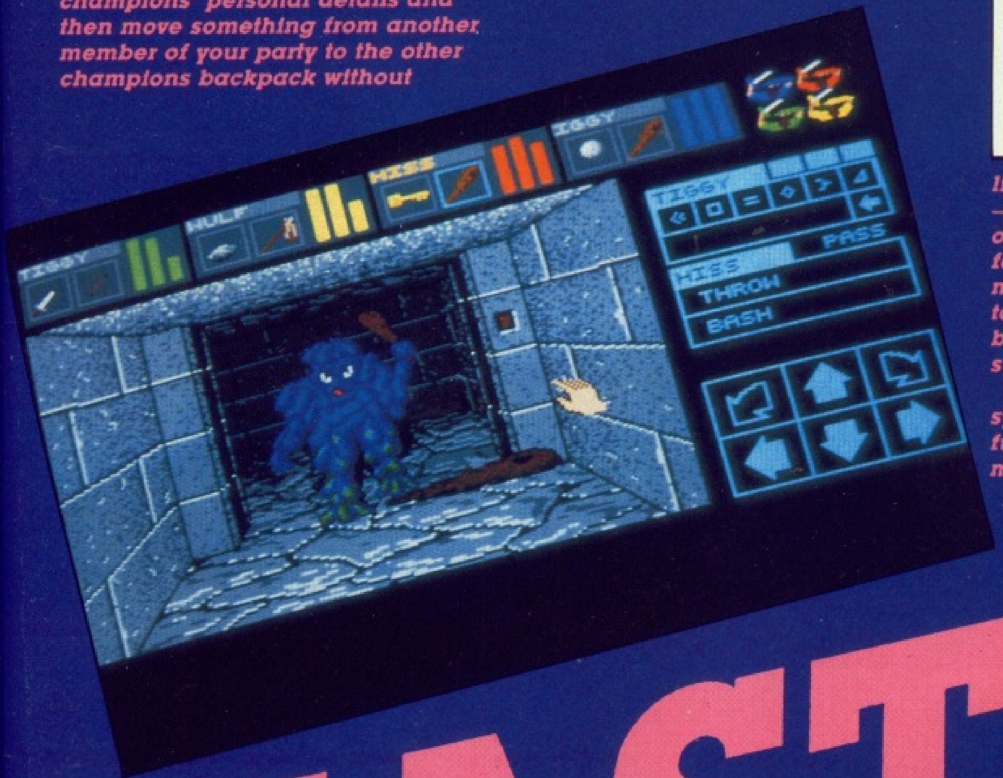
fantasy role playing statistics, including, health, stamina, manna (mgaical ability), strength and dexterity, and there are many more. There is also an option to analyse each individual champion — you can see what they are wearing, what they have in their backpacks (up to 17 items), and what weapons they are holding.

You can be examining one champions' personal details and then move something from another member of your party to the other champions backpack without switching from each individual champions screen. This saves a great deal of delay, while at the same time crushing frustration. A nice touch.

Party selection is one of the most crucial parts of the game, and a substantial amount of forethought should be given to it. Your party should be well balanced, having the avility to cast spells as well as slug it out with massive monsters in combat situations.

Once the party is created, the game proper begins. The mission you are given caters for all sorts of roleplayers. Many different monsters abound — from fear inducing mummies to shrieking screamers, so combat is a must.

Problems are always there to be solved as well, be it finding a magic key or solving a cryptic engraving on the wall. Furthermore there is an abundance of trapdoors and pressure plates — which are usually linked with frustrating force fields — all of which have to be navigated or circumvented in the correct fashion to enable progress to be made. Roleplayers will be pleased to find that it takes a combination of both fighting AND thinking to survive.



For those of you who like magic systems in a game — look no further. The game has a unique magic system that you have to work out as your character progresses.

You get hints from time to time — which are mainly found on scrolls — but you must find out how your character can cast spells if you want to complete your mission. The

MASTER

FTL/Mirrorsoft

cont. on next page

continued from page 91.

spells are many and varied. They range from a simple healing spell to the deadly fireball.

Couple these elements with hidden passages, illusions, mystic scrolls, trapdoors, food and water problems and so on, and you'll see why this game is closest you will get to an over-the-table roleplaying game on computer.

The graphics are nothing short of excellent, the sound is clear as a bell and the game is very easily controlled by the mouse, although you can use the keyboard if needs be.

I wouldn't advise the latter though, as swift life or death decisions have to be made instantly, and that second of movement between keys could prove fatal.

Dungeon Master is VERY addictive. The game itself has well over 200 hours of playing time and mapping the game is essential. If you miss one secret panel or overlook one simple allusion, you will still be able to continue with the game, albeit on a handicapped basis.

This is where computer role-playing games differ from adventures. In Dungeon Master you may not be able to solve a certain problem, or locate a specific item, but you are still able to make progress by an alternative route.

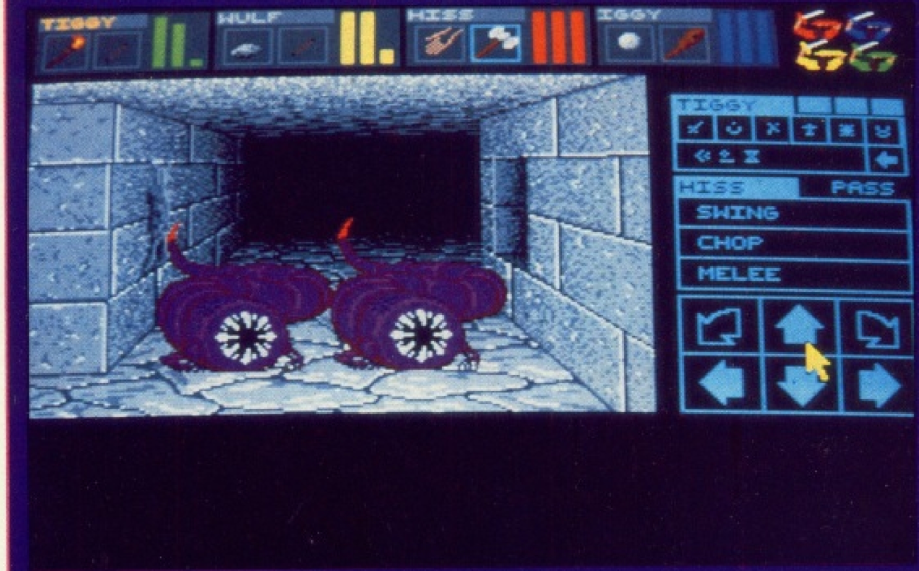
The dungeon itself has 15 levels, each one fraught with danger. The tension you experience is inversely proportional to the levels you explore. The more levels you descend, the higher the tension mounts!

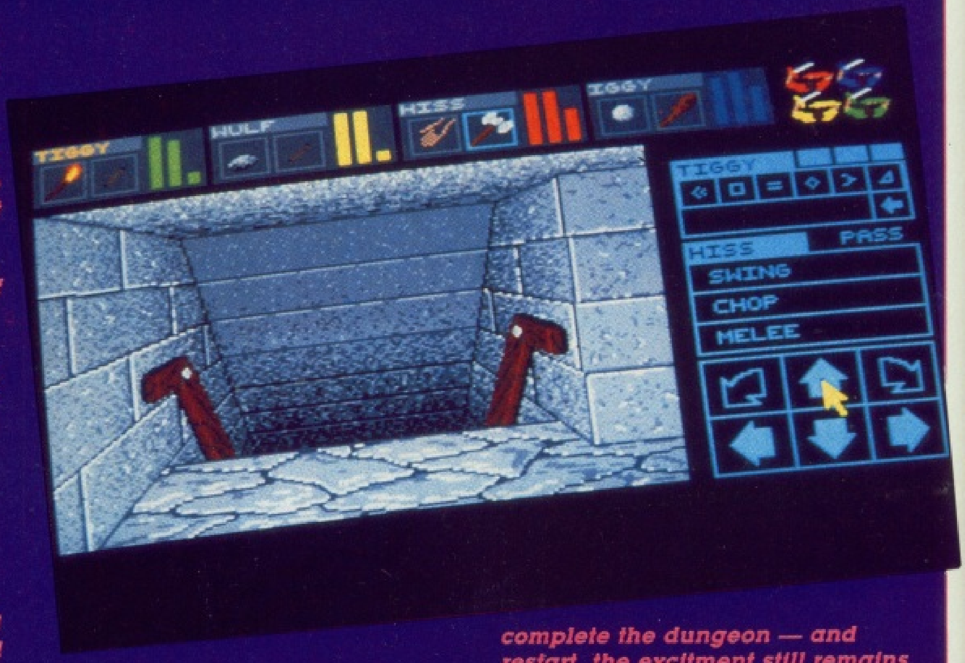
Even when you save the game — which is essential if you wish to complete the dungeon — and restart, the excitment still remains constant. Dungeon Master is that good!

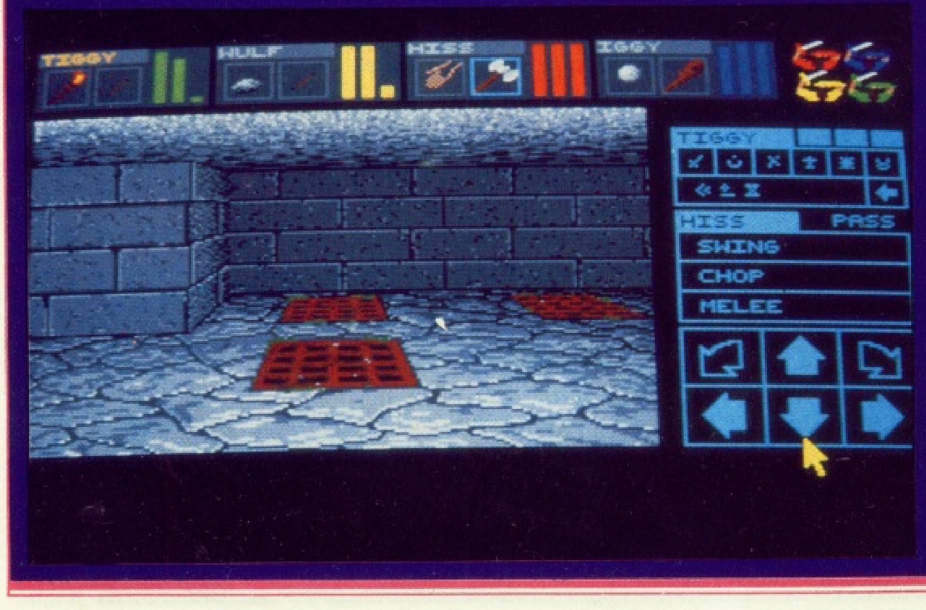
Every now and again a computer game comes along and changes the face of the whole market. Elite did it for the BBC, California Games did it for the Commodore and Dungeon Master has now not only done it for the ST, but for the Amiga as well.

Buy Dungeon Master and prepare to have your perspective of computer gaming altered irrevocably.

W







Graphics: 94%
Sound: 92%
Playability: 100%
Overall: 96%
Rating: Awesome
Amiga (Available only on 1 megabyte version)

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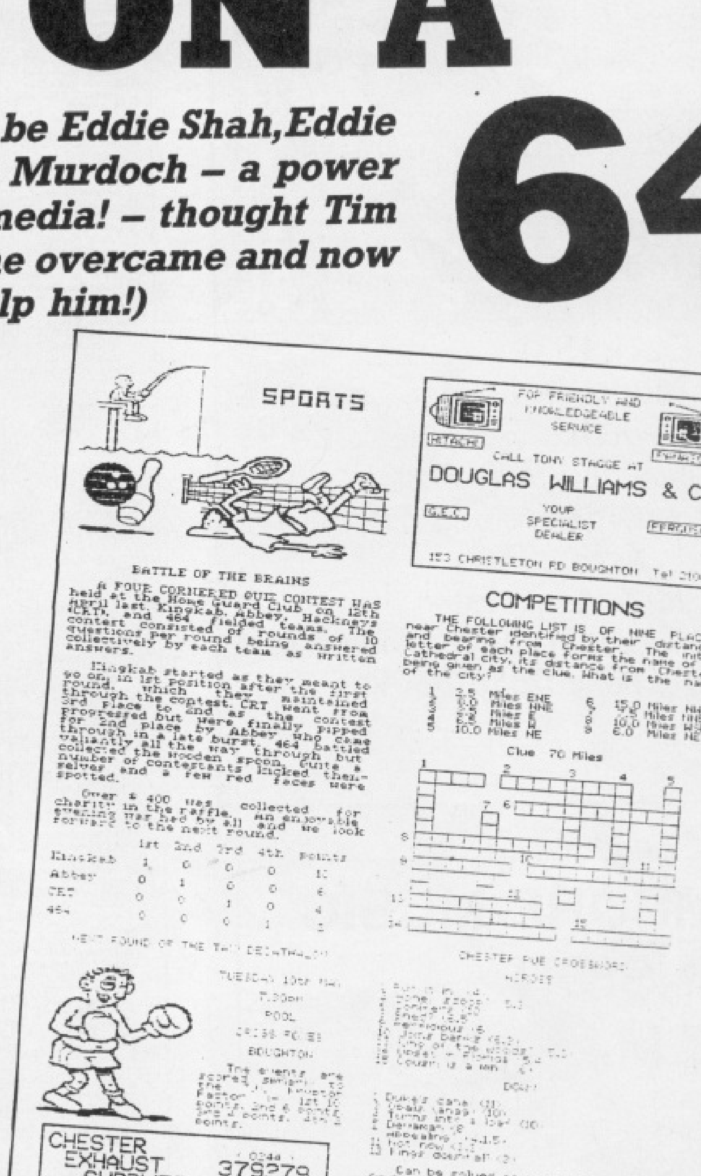
DTP ON A 64

With NEWSROOM, I can be Eddie Shah, Eddie Edwards or even Rupert Murdoch – a power in the communications media! – thought Tim Colledge. He struggled, he overcame and now he's a publisher (God help him!)



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BATTLE OF THE BRAINS

A FOUR CORNERED QUIZ CONTEST WAS held at the Home Guard Club on 12th April last. Kingkab, Abbey, Hackneys (CRT), and 464 fielded teams. The contest consisted of rounds of 10 questions per round being answered collectively by each team as written answers.

Kingkab started as they meant to go on, in 1st position after the first round, which they maintained through the contest. CRT went from 3rd place to 2nd as the contest progressed but were finally pipped for 2nd place by Abbey who came through in a late burst. 464 battled valiantly all the way through but collected the wooden spoon. Quite a number of contestants kicked themselves and a few red faces were spotted.

Over £ 400 was collected for charity in the raffle. An enjoyable evening was had by all and we look forward to the next round.

	1st	2nd	3rd	4th	Points
Kingkab	1	0	0	0	10
Abbey	0	1	0	0	6
CRT	0	0	1	0	4
464	0	0	0	1	2

NEXT ROUND OF THE TAXI DECATHALON

TUESDAY 10th MAY

7.30pm

POOL

CROSS FOXES

BOUGHTON

The events are scored similar to the [illegible] Factor [illegible] 1st 10 points, 2nd 6 points, 3rd 4 points, 4th 2 points.

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THE EXHAUST SPECIALIST

[illegible] SEALAND [illegible] CHESTER

COMPETITIONS

THE FOLLOWING LIST IS OF NINE PLACES near Chester identified by their distance and bearing from Chester. The initial letter of each place forms the name of a Cathedral city, its distance from Chester being given as the clue. What is the name of the city?

1	2.5 Miles ENE		6	15.0 Miles NW	
2	9.0 Miles NNE		7	7.5 Miles NNE	
3	2.8 Miles E		8	10.0 Miles WSW	
4	6.5 Miles W		9	6.0 Miles NE	
5	10.0 Miles NE				

Clue 70 Miles

CHESTER PUB CROSSWORD

ACROSS

DOWN

Can be solved as a crossword or by finding one pub and [illegible] your knowledge of Chester's pubs.

No prizes for this crossword, it's too simple. The time allowance should be 10 mins

Chester Taxi News Issue 1.
Printed on Citizen 120D. All content from NEWSROOM.

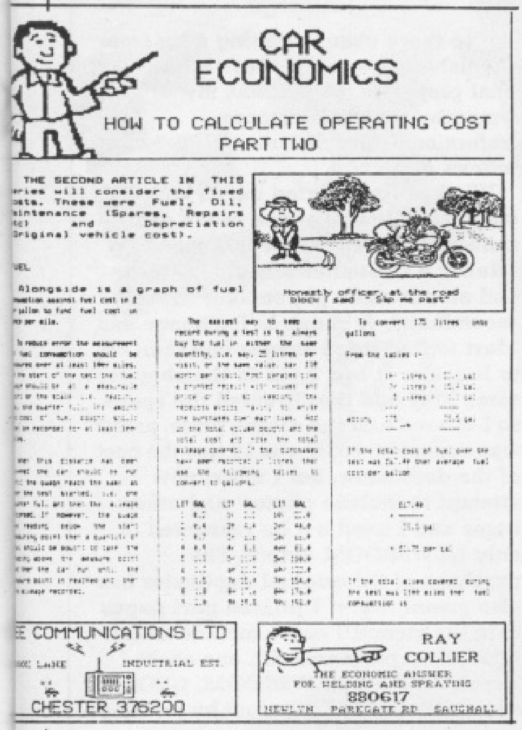
That's the answer, I thought, reading the review and the £5 off special offer in the April CCI — NEWSROOM — an economic desktop publishing package with a graphic arts disk to produce a newsletter. I could see it in my mind's eye — stories, jokes, crosswords, articles, small ads — and what we needed most — COMMUNICATION. Eddie Shah, Maxwell, Murdoch here I come!

Coming back to earth, though, the reality was more mundane. Four Chester taxi firms were running a charity sports competition amongst themselves consisting of such athletic highlights as Pool, Darts, a Raft Race, Tug of War, etc — 10 "sports" in all, with fund raising at each event. However, communication between four groups of taxi drivers, all in competition, and rarely near 'phones, offices etc was somewhat of a nightmare. Enter NEWSROOM, and hey presto, a newsletter for a special interest group containing not only news and reports on the sports events but small ads, articles and all the other things that go to producing an interesting newsletter. It had to be self-financing so a cover charge and paid for adverts were required to cover costs. Furthermore NEWSROOM would be useful for producing publicity matter for the raffles, venues etc to cull the money from the general public.

Believe me, the easiest part was sending off the order. I always find mail order frustrating, and the four weeks spent wondering whether the order got there, if it would work with my disk drives and printer, and would it do the job I wanted, couldn't pass fast enough. It did, however, give me time to consider, size, format, subject matter and the economics.

I use a C128 with an ENHANCER 2000, a 1570 and a 1581 disk drive along with a CITIZEN 120D printer. A strange range of disk drives, you might think, but each one was bought at the time with what I thought were reasonable motives!? As for size and format, since it had to be financially self supporting, I wasn't going to get away with a single page broadsheet and I eventually decided on an 8 page A4 paper printed on 2 sheets of A3 paper, folded in half, (A3 is twice A4), with one sheet inside the other (newspaper style) printed on each side. This way I got away from staples, glueing etc, and provided sufficient room for all that I wished to include.

Finally the program arrived and it was straight into the disk drive, a quick read of the comprehensive manual and away with the first tests. Initially I established that it worked fine on both the 1570 and the ENHANCER 2000 drives. It recognised the presence of the 1581 but kept telling me not to try saving the master program whenever I tried to use the drive on channel 9. It was as I expected, however, I use the 1581 mainly for storage of backup files using a CANNON 128 copier. The fact that the ENHANCER 2000 worked was a bonus since I could use the dual drive option. Next came the printer. But which option to choose? Since the default printer was the Commodore 803 I tried that first and on printing a panel it worked and though the print density



CAR ECONOMICS

HOW TO CALCULATE OPERATING COST
PART TWO

THE SECOND ARTICLE IN THIS eries will consider the fixed osts. These were Fuel, Oil, aintenance (Spares, Repairs tc) and Depreciation Original vehicle cost).

UEL

Alongside is a graph of fuel

E COMMUNICATIONS LTD
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Layout page, p6 from CTN Issue 3. Showing NEWSROOM and MINIOFFICE II input. ▲

wasn't too hot the print speed was fair.

The next stage was to produce a banner and a full page. The program was easy to use and the only pain was the constant disk changing, but once you were used to the program you were soon pre-empting the irritating insert x disk into drive y and press any button or key message. It was on this first page that my first disaster struck! In careless aim for the inst/del button I hit the restore button — the program **CRASHED**! There was no option but to remove the disk and reset the computer. This showed the benefit of working with small panels — not a lot was lost. It was at this point that I decided to use the dual drive option. By putting a short change disk ID program on a data disk, each time I started I changed the 1570 from 8 to 9 and loaded the main program from the **ENHANCER**. 2 drives saves a considerable amount of time and frustration!

On printing my first complete page I discovered the next problem. Between descending panels the printer went mad and printed garbage and a space line. Puzzled by this I thought I was making a mistake somewhere, but after redoing the panels I got the same result, but then disaster No. 2 struck! During the print run the printer stopped mid panel. On trying F1 to stop the printing the program disk drive started up again for a short while and then stopped. The program had **CRASHED** again! Nothing for it but to remove the disks, reset, and start again. But this time the computer could not find the program. Puzzled, I examined the disk directory to find the disk had been wiped clean and only the disk header remained! Consternation, I had lost my **NEWSROOM**.

> *"Puzzled, I examined the disk directory to find the disk had been wiped clean and only the disk header remained! Consternation, I had lost my NEWSROOM."*

A quick phone call to CCI resulted in me returning the program and within 10 days came a replacement — **NO QUIBBLE** — I suppose they are used to dealing with ejjits like me. In those 10 days I had time to consider the problems and consider the implications in the instruction manuals and came to the conclusion that I was to blame. In sheer laziness I was running the 128 with my **ACTION REPLAY** cartridge attached so the computer started up in 64 mode. I must have inadvertantly fooled the program into thinking that I was copying it and some weird scheme had come in and taken revenge. Though I don't know that this was the cause I resolved to run the 128 without the cartridge attached in future, just in case. As to the garbage problem it would be printer options I investigated next.

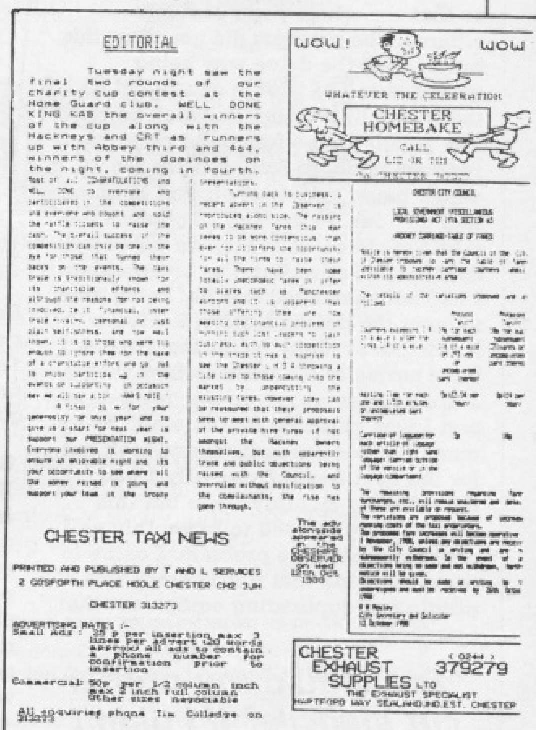
Back and running on the 128 in 64 mode I soon discovered that page printing was fine using all the **EPSOM FX** options, the **CITIZEN** option and most of the others as long as when presented with the interface card inquiry I pressed cancel on the option. The only ones to give me garbage were the **COMMODORE** options, and that with a printer with a **COMMODORE** serial interface. What also happened was that although the print speed slowed down the print density improved greatly. Another change was a slight bunching up of the line spacing so that there was now room for 4 1/2 panels per page vertically on an A4 page so that if I used the legal paper size option and made the bottom panels only half the depth I could get more on the page.

As to why the program crashes occasionally mid panel I am none the wiser. I can only think that spikes in my very dirty electricity supply, fridges, Hoovers, washing machines, freezers, you name it, all starting up and stopping at random intervals might be affecting it. I thought of buying a surge suppressor until I read in Practical Electronics an article suggesting that they might be a con trick, perhaps it only applied to Hi Fi, I don't know, anyway there must be an answer. I found that with careful paper positioning each time, if the printer did stop half way it was possible to mask the printed area with a cut sheet of paper and reprint, essential if it happened on the last side of the four page A3 sheet.

Finally on the graphic side I found that the GEOS compatible mouse I bought from CCI works fine with the program, better than on the GEOS program.

The next stupid thing I did was to impose a deadline for the first issue. Since it was going to contain a sports report the last thing I wanted was for it to be so out of date as to be old hat. Amazing how deadlines concentrate the mind. The little problem of filling 8 sides of A4, getting on for 90 panels assumed immense proportions! The ▶

> *"The little problem of filling 8 sides of A4, getting on for 90 panels assumed immense proportions!"*



EDITORIAL

Tuesday night saw the final two rounds of our charity cup contest at the Home Guard club. WELL DONE KING KAB the overall winners of the cup along with the Hackneys and CRT as runners up with Abbey third and 464, winners of the dominoes on the night, coming in fourth.

WOW! WOW
WHATEVER THE CELEBRATION
CHESTER HOMEBAKE
CALL

CHESTER CITY COUNCIL

The adv alongside appeared in the Chester Observer on Wed 12th Oct 1988

CHESTER TAXI NEWS

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Layout page, p5 CTN Issue 3 showing NEWSROOM and MINIOFFICE II typeface mixture. Note how by inserting proportional spacingin between letters on the Minioffice input you can improve the legibility of the smaller type. The local Government advert shows up the features of the Citizen 120D by using embedded commands in the Minioffice input to vary typeface, font, line spacing and Print density. ▲

DTP ON A 64

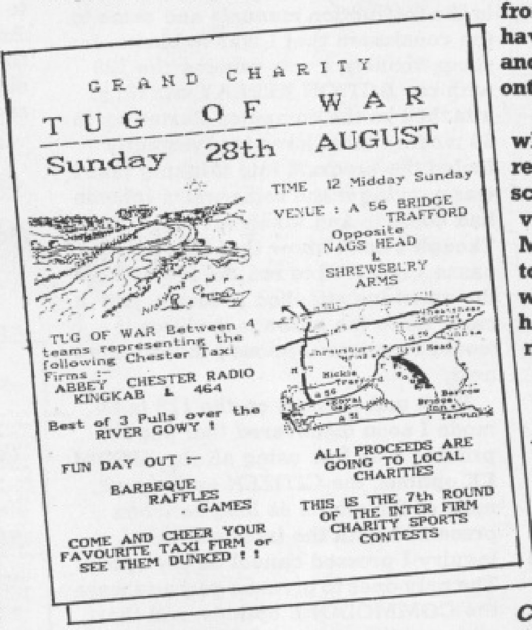
continued from page 95

first issue was going, in part, to be a spoof issue and knowing where to draw the line between gentle mickey-taking and upsetting the reader was a bit troublesome — shades of Neighbours.

Finally I filled the 8 pages with a little help from other budding authors — never trust an author to meet a deadline, and I came to the biggest headache of all — PRINTING TIME. To print one A4 page was taking 8 mins but of this time only about 3 mins was actual printing, the rest being used to access the disk drive for panel information. I had to reduce this somehow. The first stage was to put each page on its own disk so that it just contained the information required for one page. This reduced the printing time to about 6 mins. I then purchased a 64K printer buffer — type 99064 from MEEDMORE (Distribution) LTD in the hope of being able to load a whole page into the buffer to release the computer so that the whole page could be entered. The program did not allow this but at least the drive was being accessed in the middle of a panel so there was little delay between panels. The printing time for an A4 page reduced to about 3 mins. Thus the whole paper could be printed in about half an hour. 10 hrs and 20 copies later it hit the street. Lead balloon it was not! Sold out in 5 mins flat. The one problem I had not envisaged was not being able to meet the demand. Now, I drive a black cab at night, so during the day I have normally 6-7 hrs for others things. 5 hrs per day at my printer for 5 days and I was climbing up the wall!! So up went the sold out notices and look out for the next issue. Originally I had thought of a monthly issue but this immediately slipped to bimonthly so I could consider the problem. I came to the conclusion that it was some sort of printing or duplicating equipment that I needed.

"But would my printer cut stencils? If I didn't try it I wouldn't know. So I removed the ribbon from the printer and tried."

The heart searching that then ensued, since it all costs money, went on for a few days until my wife pointed out an advert in the local free paper. Second hand Gestetner duplicator for sale £25. I was on the phone in a shot and down to a local School that was selling it the next day. My £25 bought me not only the duplicator but a couple of boxes of stensils, 4 tubes of ink, some paper and a filing cabinet on which it stood.



GRAND CHARITY

TUG OF WAR

Sunday 28th AUGUST

TIME 12 Midday Sunday

VENUE : A 56 BRIDGE TRAFFORD

Opposite NAGS HEAD & SHREWSBURY ARMS

TUG OF WAR Between 4 teams representing the following Chester Taxi Firms :- ABBEY CHESTER RADIO KINGKAB & 464

Best of 3 Pulls over the RIVER GOWY !

FUN DAY OUT :-

BARBEQUE
RAFFLES
. GAMES

ALL PROCEEDS ARE GOING TO LOCAL CHARITIES

THIS IS THE 7th ROUND OF THE INTER FIRM CHARITY SPORTS CONTESTS

COME AND CHEER YOUR FAVOURITE TAXI FIRM or SEE THEM DUNKED ! !

Event poster for the Charity competition. All NEWSROOM input. The map is a freehand drawing using the CCI purchased mouse which proved quite straight-forward to produce.

But would my printer cut stencils? If I didn't try it I wouldn't know. So I removed the ribbon from the printer and tried. Getting the stencil round the platen was some problem until I folded the card leader first in a roughly round shape. I then printed a page with no problem and off to the duplicator with some trepidation. I'd never used one before and the lady who used it at the school wasn't available when I picked it up, so all I'd got was an instruction card. An hour spent experimenting and Bingo — it worked far better than I had imagined. I was now in business.

Of course it wasn't really as simple as all that. Persuading the machine to pick up sheets of folded A3 was a problem, it would only do it if I rotated it manually, but I could produce 50 copies per hour, no sweat and they were a lovely dark newspapery black — and so was I.

The second issue was produced with no real problems — except finding or writing the copy — Chester is peopled with budding authors but you try getting their offerings out of them. You've more chance getting a tip from a Welshman — sorry, that's a bit of a local prejudice, so AHJ has my sympathy though I suppose professionals are different. *(Don't you believe it! Ed.)*

What at first started out as simple communication exercise in the end snowballed. Next I saw in a local TV retailer a Gestetner offset duplicator and electrostatic platemaker for sale secondhand. A check in Exchange and Mart to find price ranges and then off to bargain. It had been in the shop for some time and they wanted the space so I offered half the asking price, and it was accepted. So, it was 10 ties the cost of the duplicator, but I could now attempt to include photos' and other items and I need not be restricted to only NEWSROOM output. The purchase of the original duplicator has also meant that if I printed part pages onto the stencil I could include output from other programs. On one sheet I have combined NEWSROOM, GEOS, and MINI OFFICE II output by printing onto the stencil in 3 goes.

NEWSROOM has opened up for me a whole new world and I would heartily recommend it as a workhorse of small scale printing operations. The three volumes of CLIP ART obtainable from MICROPROSE are well worth buying to extend your graphic range and you would be surprised when it gets around how many people have small printing needs that you can do economically.

Editor's Note: Microprose are now no longer supplying clip art packages but these can be obtained through CCI at £12.95 each.

Contact:

Commodore Computing International
40 Bowling Green Lane, London EC1R 0NE. 01-278 0333 — Newsroom £24.95 inc p&p

Database Software Ltd
Europa House, 68 Chester Road, Hazel Grove, Stockport SK9 5NY. 062 587 8888 — MiniOffice II £19.95 disk

Dimension Computers Ltd
27/29 High Street, Leicester LE1 4FP. 0533 517479 — Citizen 120D Printer £159,95 p&p extra, Geos V 1.3 £24.95

Financial Systems Software Ltd
18 High Street, Pershore, Worcs WR10 1BG. 0836 553153 — Commodore 1581 3= in Disk Drive £184.95 inc p&p

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28 Farriers Way, Netherton, Merseyside L30 4XL. 051 521 2200. 64K Printer Buffer £79,95 inc p&p.

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April '88

Newsroom Report

CCI 's Editor caught with trousers down !..Read on

* * * * * * * * * * * * *

"...so simple."

...about it !

.. 5 different typefaces..
Old English for example.

STOP PRESS read on______ STOP PRESS read on______

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Please allow 28 days for delivery

C64

MEGA

ROBOCOP

Ocean

Rumours of Ocean signing Robocop reached us a year ago. But among all the big coin-op licences of late, Ocean's 64 version of the highly sucessful film seems to have taken a back seat as far as the hype goes. In a way this is a good thing, as hype often leads to disappointments, but in Robocop, hype or no hype, Ocean have come up with a game to rival all of its Christmas and new year competitors.

There are nine stages to the game, each corresponding to a scene from the movie. You begin patrolling the streets of Detroit. Gangsters appear in first floor windows and attempt to gun you down with pistols. However, Robocop gives better than he gets! Under your control, he can knock them from their perches with a well-aimed shot from his own pistol, while his body armour absorbs a number of direct hits. This first level plays a lot like Rolling Thunder, except that you are confined to the bottom of the screen.

Reaching the end of the street you spot a woman being attacked in a dark alley. Viewed through Robocop's eyes, you take it upon yourself to resolve the matter with some target practice centred on the attacker. Here you need to take care not to shoot the girl too many times but put a stop to the incident before the time limit expires.

Neat it's on to another horizontally scrolling street patrol, this time with mad bikers stirring up trouble.

One load later you arrive at stage four. A photofit portrait of a wanted murderer is displayed on the left of the screen, while selections of hair styles, chins, ears, mouths and noses flash up very quickly to the right. You have to match up the features to the complete photofit by pressing the fire button as the correct piece is displayed. Succeed in matching the mugshots and you are rewarded with a 100% fit Robocop for your next patrol, which continues in a similar style to the first and third stages with a greater emphasis on the time limit.

Later scenes include more "through the eyes" shoot outs and a fist fight.

You g et the choice of playing a pleasant, if not outstanding musical backing or some functional effects.

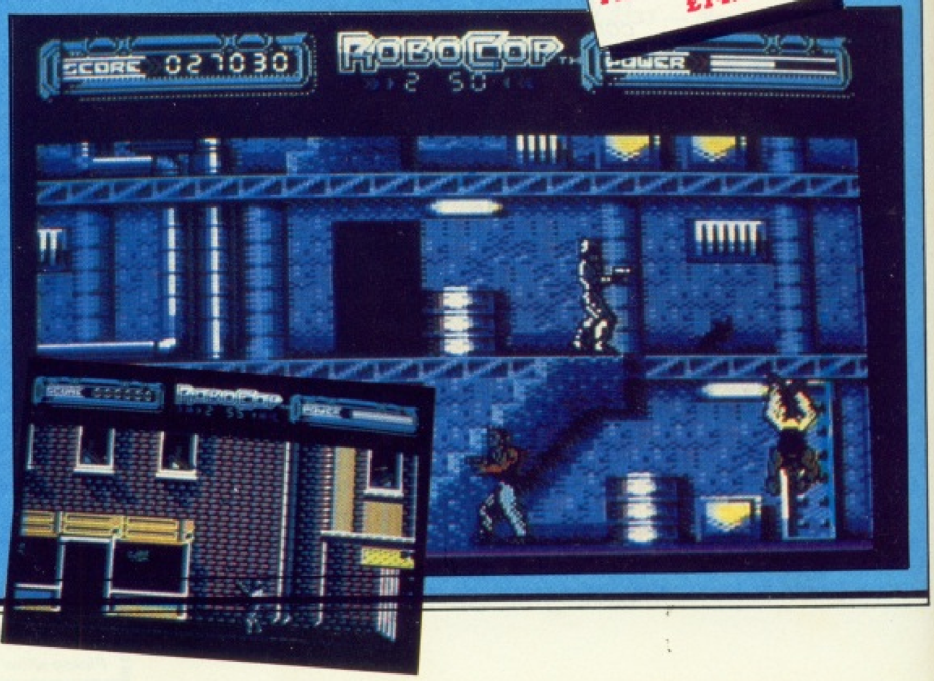
Over the past year or so Ocean have developed a very distinctive graphical style. Robocop's sprites are just as good as you would expect from the creators of Target Renegade, Daley Thompson's Olympic Challenge and Vindicator; detailed, colourful and realistically animated. It is nice to see some interesting backgrounds to go with the sprites, and some of the scrolling patrol levels are very impressive in their design.

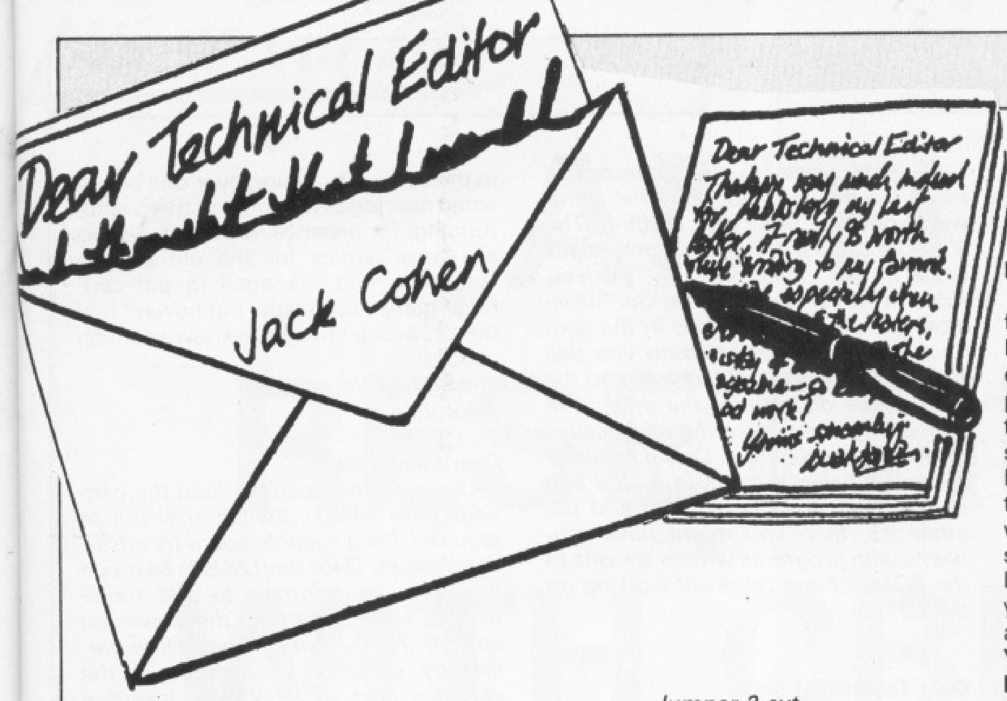
One minor point against the game concerns the fact that each tome you play, the baddies always appear in the same positions, which tends to make each game very much like the last.

Robocop is difficult, but fortunately once you have loaded a section you are allowed to start any further games from that point. There is a good variety in the scenes that will lengthen the game's life, and the abundance of violence in the nake of the law will go down very well with expectant fans of the film. Highly recommended.

T.H.

Graphics: 92%
Sound: 72%
Playability: 78%
Overall: 79%
Rating: MEGA
Price: £9.95 (c)
£14.99 (d)





Dear Technical Editor

Jack Cohen

Dear Technical Editor

I have a 1520 print plotter in my configuration which I wish to retain, however, I am experiencing the problem many Spreadsheets and Databases are programmed to operate on Dot Matrix Printers using device numbers 4/5.

The Print Plotter uses device number 6. I have a very old programme by Gemini which advises how to change the device number within the programme. This is a tape and I now am looking for a disk to use in my disk drive 1541.

A friend of mine says he seems to remember that there is a way to change the hardware of the 1520 solfat it operates as a device 4. Have you any details of this or is there a software programme which would enable this to be done.

Your technical advice would be gratefully received.

Yours Faithfully
W. J. Martin

Dear W. J. Martin

The device number can be changed by a hardware modification which is similar to other CBM printers and disk drives.

1. Disconnect all leads, especially power supplies, before opening the plotter.

2. Inspect the printed circuit board (PCB) for the two jumpers which control the device number. Each jumper looks like a circle divided into two halves by a short horizontal bar and as regards size each is about half the size of a finger-nail.

3. Because the device number of your 1520 is set at 6, you should find that Jumper 2 is already cut. To restore to device 4 resolder cut jumper so that both jumpers are complete.

4. To summarise
Device 4: No cuts
Jumper 1 cut
Jumper 2 cut
Both jumpers cut

In order to change device numbers of disk drives the numbers range from 8 to 11 in the same order of operations.

Dear Technical Editor

Having spent many hours typing in the Crib 128 program for the Commodore 128, published in the Dec '87 issue of C.C.I., (together with the missing section printed the following month) I am still unable to run the program.

After rectifying my own typing mistakes, printing out the listings and checking it letter for letter against the printed listings, I still cannot run the program.

Every time the program is run it comes up at Line/Data error in 7000.

I have checked through all the C.C.I. magazines for months after to see if there was a mention of a misprint in the listing, but to no avail.

Please can you help me? My knowledge of programming is strictly limited and I am most disappointed at not being able to play the game, after all the effort of typing it in.

Many thanks for your anticipated assistance.

Yours Sincerely
B. Chambers

Dear B. Chambers

One of the tests that the program makes is to check data entered by you to see if it is correct. If any item of main data is not equal to three figures then the message 'Line/Data error in line xxxx' is displayed by line 6760.

It is important to enter leading zeros because line 6630 reads each data item into a string variable which is then tested in line 6660 for length of three. If you miss out one item of data completely then the program will attempt to read in the five figure number at the end of the line and then crash!

Dear Technical Editor

I have been a proud owner of a 64c for over a year and for the first time I have run into a major problem. Whenever I switch the computer on the picture won't come on the TV. I have tried tuning the TV but it still won't show the picture. What is wrong? I also have another question to ask. I am thinking of buying an Amiga 500 and wondering if I would be able to use software for the C64. would I need to buy something else. I would appreciate your help as I am missing my computer a lot.

Yours Sincerely
E. Santos

Dear E. Santos

This is probably a failure of the video chip.

If you have a friend with a 64c then try interchanging chips to identify the faulty one and then order a replacement from a spares supplier in Australia.

If you cannot obtain the chip from them then try one of our magenta page advertisers in the UK.

If you cannot find anyone to exchange chips then try the nearest repairer and get an estimate first.

· If you buy an Amiga 500 then by using the 64 emulator program you should be able to run 64 software on the Amiga.

Dear Sir

How pleased I was to receive my subscription copy of CCI for November!

Like reader P. Wilson I have just purchased a Star LC-10C colour printer and was having some problems trying to insert colour commands into the Mini Office 2 word processor.

The printer manual is a little difficult to follow if you are a mere 'hacker' like me — us?

Your suggestion of entering the command syntax of CC27,114,n is just right when entered using the programmes Embedded Commands (F5 & F7 keys for 'on/off'). I did not find it necessary to go through the Graphics Programe first to see the printer up.

If you wish to print my address then P. Wilson may contact me if he is still having problems.

Whilst I am on the subject, do you know if there is a book available for the said printer detailing other things that this seemingly excellent printer will do? The same sort of book like 'inside GEOS' which is available.

Yours Faithfully
Ssgt Hunt

cont. on next page

Dear Technical Editor
This month:
Jack Cohen

continued from page 99

Dear Ssgt Hunt

You expand on my answer to P. Wilson in the November issue of CCI, and offers further help if needed. By the way my info on using the graphics module first was meant only for the initial setting up of the printer. There is no need to repeat this procedure each time.

Try a supplier of computer books such as Computer Manuals Ltd of 30 Lincoln Road, Olton, Birmingham. Phone 021-706-6000. They will be able to advise if such a book exists.

Dear Technical Editor

I have had a Commodore 64 for about 3 years now and use it mainly for keeping notes by using Mini Office 11 word processor.

I store all my notes on a tape which I find quite convenient apart from the fact that it takes so much time to save and load all my notes, I also use a Star LC10C printer for printing my letters out and this is connected to the serial port of my computer.

I have been contemplating getting myself a disk drive in the near future according to the instruction book they recommend a Commodore 1541 disk drive as being the most compatable but I have not seen these drives advertised in many magazines owing to the fact that the 64 is now being taken over by the Amiga. Everyone is Amiga mad, except me I can't afford one and all the good business software for my machine that I want is only done on disk, so a disk it must be, that's my first problem explained.

Now if I could find one of these illusive 1541 drives I would have a problem to pay for it so I considered a Blue Chip drive by Datel Electronics which is a bit more near my pocket and is said to be compatable with the 64 and 128 machines. As you can see I can't afford to waste money and don't want to buy something that I will regret.

There is one more thing that bugs me about disk drives that is the different sizes of disks. For instance they are advertised as bieng 3.5" & 5.25" in size so even if I buy either of these disk drives how will I know what size disks to use and will any software I buy run on that type of drive?

Yours Sincerely
A. J. Wilson

Dear A. J. Wilson

Read CCI adverts especially Magenta pages for bargain price 1541's. For example in Dec 88 issue on page 115, you will find a 1541 for sale at £85. The 1541c offered new at £165 by Software City. Every issue carries adverts like these where you may find the hardware/software that you require. The 5.25 size drive is the normal one and is used in the 1541 and 1571 drives. Adverts for drives that use 3.5" diskettes should have that info in the text. To use commercial software you will have to make sure it is recorded on the correct size diskette for the drive. The two sizes cannot be confused, because they look very different. Only if software is copied, using two drives (unit 8 and unit 9), one drive being 5.25 and the other 3.5, then you might have problems with programs written specific to the ROMs of one drive not working on the other.

Dear Technical Editor

I have a +4 Computer, I would like to connect a 40 track double sided disk drive which is fully IBM/BBC compatible.

Will you please tell me if it can be done and how?

I plan to use a external power supply for the +12v and +5v for the drive.

Yours faithfully
M. J. Hanson

Dear M. J. Hanson

You can connect them but would it be of any use to you? The +4 computer relies on an intelligent disk drive, that is the kind already programmed with CBM code routines internally. Accessed by specific commands from the +4 which pass control to internal ROM routines. Without these routines you will have to write your own routines according to the codes required for IBM/BBC type drives. This will result in your not being able to run CBM disk software without a translation program or special hardware.

Dear Technical Editor

Just been reading your superb column, and what a wonderfully useful two pages it is too . . . crawl . . . whinge . . and I have a small problem for your attention.

I have a C-128, and the new Mk.4 version of A. Replay Professional (V5.2) cartridge, my problem being that if I want to use the computer in '128' mode I have to unplug the cartridge each time. (With my earlier A. Replay Mk.3 I could simply press RESET and go to '128' mode, so leaving the cartridge permanently in place). I wonder, (A) if there is a POKE or two to bypass the cartridge so the computer *WOULD Reset into '128' mode,* or (B), if '128' mode is disabled by the cartridge being in place, whether it is possible to get round this by taping over or even removing one contact on the cartridge, in the same way taping over one pin on some cartridges will prevent them auto-running, for instance. (I have done this on some games for the old Dragon computer, and managed to put cartridge games onto tape, but haven't had the C128 long enough to know so much about it).

Thank You, Yours
Mike Vine

Dear Mike Vine

Use a motherboard to hold the cartridge (and others). Switch in or out as required. For a suitable board try advertisers'pages. Once the 128 is in 64 mode it cannot be returned to 128 mode without reset or turning the power on and off (NOT rapidly). The 128 is particularly sensitive to damage in the cartridge port so DON'T try inserting the cartridge while the computer is switched on. When using a motherboard then if you switch on when cartridge switched out. Code can be written substituting the reset routine with your own routine and then switching the cartridge in and pressing reset will enable 128 mode whilst leaving the cartridge switched in. The ultimate solution would be to blow the code onto an EPROM along with the rest of the ROM and use the EPROM instead of the ordinary ROM. The power up display could have a suitable message such as 'Initialise cartridge, Yes or No'.

Dear Technical Editor

I am the proud owner of a CBM 128 computer and a MPS 802 commodore printer. For my programming work, I use mainly the turbo-pascal (implemented for CPM). Can you please tell me how to access in turbo-pascal to the secondary addresses of the printer. In other words, when I want (for example) to change the space between lines, I use in basic the instructions: OPEN 6,4,6: PRINT#6,CHR$(18). How to do the same in turbo-pascal?

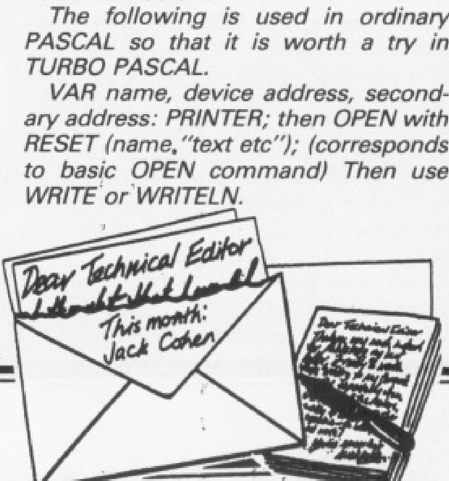
I really need a solution to this problem. Thank you very much for your help.

Yours Sincerely
Paul Gerard

Dear Paul Gerard

The following is used in ordinary PASCAL so that it is worth a try in TURBO PASCAL.

VAR name, device address, secondary address: PRINTER; then OPEN with RESET (name, "text etc"); (corresponds to basic OPEN command) Then use WRITE or WRITELN.



ANTI RESETTING WITH CBM80

Stopping people resetting your machine code or basic programs may sound very difficult if you are not a professional programmer, but this useful tip from William Goss shows how it can be done very easily.

This method: the CBM80 method (the reason for the name will become clear as you read on) will defeat the reset method where the RESET line is grounded (connecting pin 1&3 in the user port or pin C&A the cartridge slot). It cannont defeat many of the dedicated cracking cartridges on the market, but it can defeat many of the cheap 'reset switches' advertised.

How it works:- when the computer is RESET it looks at locations $8004 to $8008, if they contain the characters CBM80 in that order then it looks at locations $8000 to $8001 to see where the machine code program to run is, instead of resetting.

This also happens if the RESTORE key is hit, but the computer looks at $8002 to $8003 to see where the machine code routine to run is. (This can be the same program as for a reset or a completely different one).

This method is very easy to use, first I will show how it is done in MACHINE CODE. (The numbers prefixed with $ mean they are hexadecimal and numbers prefixed with # are demimal).

At the beginning of your machine code program you must put the characters CBM80 into locations $8004-$8008 (#32772-#32776). This can be done using LDA#$ and STA$ or $8000 to 8008 (under the rom) can be saved out, containing cbm80, with the rest of your program.

Under the rom it will look something like this using a machine code monitor.

```
.m 8000 00 00 00 00 c3 c2 cd 38
@@@@CBM8
.m 8008 30 00 00 00 00 00 00 00
0@@@@@@@
```

Next you must tell the computer which location to jump to when a RESET or RESTORE key is detected.

The reset locations are stored in LO/HI (LSB/MSB) format;e.g. if you wish to run a rountine at $C000 (#49152) when a RESET is detected put 00 in $8000 (#32768) and C0 in $8001 (#32769).

```
.m 8000 00 c0 00 00 c3 c2 cd 38
@-@@CBM8
.m 8008 30 00 00 00 00 00 00 00
0@@@@@@@
```

The same is for RESTORE key detection but the pointer is stored in locations $8002 (#32770) and $8003 (#32771) e.g when a RESTORE Key is detected you wish the computer to run a rountine at $C100 (#49408). put 00 in $8002 (#32770) and C1 in $8003 (#32771).

```
.m 8000 00 c0 00 c1 c3 c2 cd 38
@-@ACBM8
.m 8008 30 00 00 00 00 00 00 00
0@@@@@@@
```

Basic

As in the machine code way described above the computer scans upon RESET or RESTORE key detection $8004 (#32772) to $8008 (#32776) for the*R*characters CBM80 and jumps to a machine code program pointed to by $8000 (#32768) to $8003 (#32771). IT CANNOT JUMP TO A LINE IN BASIC! Therefore I have written some very simple suitable machine code programs for those using basic who have none of their own.

cont. on next page

ANTI RESETTING WITH CBM80

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At the beginning of your program put this

```
10 A=32768 :REM $8000=(#32768)
20 POKEA+4,195:POKEA+5,
194:POKEA+6,205 :POKEA+7,56:
POKEA+8,48
```

(this puts the characters CBM80 into locations $8004 (#32772) to $8008 (#32776).

Next you must set $8000 (#32768) and $8001 (#32769) to the beginning of your machine code routine, in the case of mine it is $C000 (#49152). Therefore set $8000 (#32769) to 00 and $8001 to $C0 (#192). The beginning of the other of my machine code routines is $C100 (#49408). Set $8002 (#32770) to 00 and $8003 (#32771) to $C1 (#193).

Do this by putting these lines in your program.

```
30 POKEA+0,00 :POKEA+1,192
40 POKEA+2,00 :POKEA+3,193
```

If you swap the 192 for 193 and vice versa in lines 30&40 the routine originally run upon RESET will now happen when RESTORE key is detected and vice versa.

Here are some machine code programs to use with basic.

```
50 FORX=49152 to 49160
:READB :POKEX,B :NEXTX
```

This line reads the machine code data tino $C000 (#49152) to $C008 (#49160).

```
60 DATA238,032,208,238,033,208,
076,000,192
```

The data statements hold the machine code data.

```
70 FORX=49408 to 49433 :READB
:POKEX,B :NEXTX
```

This line reads a different machine code program into $C100 (#49408) to $C119 (#49433).

```
80 DATA173,017,208,041,008,141,
017,208,169,000,141,032,208
90 DATA169,001,141,032,208,169,
002,141,032,208,076,008,193
100 BEGIN YOUR PROGRAM HERE
```

Now when your basic program is running or has been run, and someone tries to RESET it, the computer runs the rountine at $C000 (#49152) or when RESTORE key is hit it runs the rountine at $C100 (#49408).

A useful note: If you RESET your computer with a basic program in, the basic seems to have disappeared, not so, just type POKE 2050,8 (return) then LIST, the program should reappear. If only the first few lines appear type 0 (return) and the rest of the basic should reappear when listed.

As I was writing this article I discovered that the word processor I was using used the CBM80 method as a form of protection against RESETS and also as a hit RESTORE to return to MAIN MENU!

W.G.

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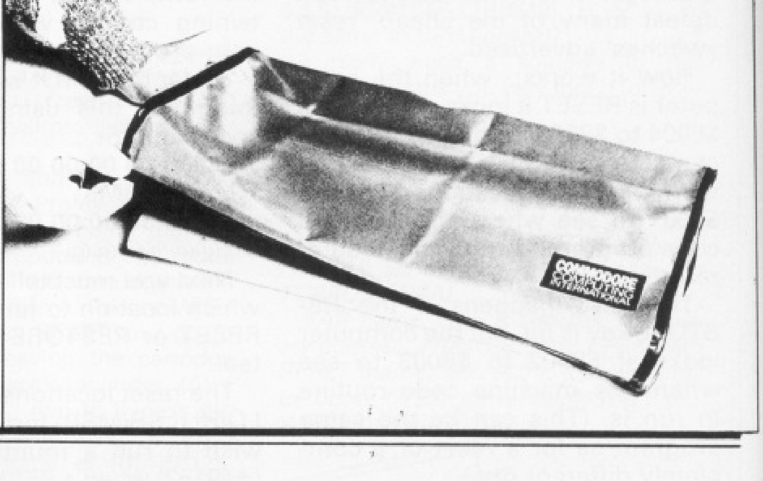
Allow 28 days for delivery



ULTRA-SCROLL 64

Mark Cherriman

This is a very attractive and well-designed program that makes clever use of the 64 graphics system.

I was reading the July '87 issue when I came across Peter Gerrard's article on scrolling. In it he mentions the register for pixel by pixel smooth scrolling and the method for using it. Then he says "I found it impossible to achieve a smooth motion using this technique." It is in fact possible, but it does require very careful timing. Since this is the only way to get fantastic, slow scrolling, I thought you might be interested in the set of routines from one of my games.

This routine provides perfect pixel-pixel scrolling over 4 speeds. Thie bottom 3 lines are left stationary for score/lives display. The scrolling data may be of any length and from anywhere in the user memory (assembly programmers can easily switch the ROs out to use the hidden RAM). In order to save memory, most games use complicated algorithms to place the new screen data onto the end column. However to allow this routine to be easily used, I've adapted it so that the data is stored screen by screen in exactly the same way as it is held in screen memory. The listing contains several subroutines to support the main program and make it easy to use from either BASIC or Machine code. There is also short BASIC program to help you design the scrolling screens and a separate Save routine to save this data.

The main routine loads into memory from 49152 and the Save routine goes into 49664. The BASIC entry points are:

INITIALIZATION . . . SYS 49152, speed, screen data
speed is one of 1, 2, 4, 8 with 1 slowest
screen data is an address pointing to the first memory location of the data to be scrolled onto the screen.

This routine starts the scrolling at the given speed and saves to memory the pointer so that when the end of the data is reached, it wraps around starting again. You should call this routine first.

CHANGE SPEED . . . . SYS 49168, newspeed
Call this routine to alter the speed without stopping the scroll.

CHANGE DATA . . . SYS 49174, pointer
Call this routine to change the screen data pointer. The data scrolled on will then start to come from that address. This allows you to skip screens, reset to beginning etc. It does not change the pointer set in the Initiallization call.

STOP . . . . . SYS 49184
A call to this will stop the scrolling and turn off the Raster Interrupts.

RESTART . . . . . SYS 49187
Calling this will restart the scrolling from the place at which it was stopped.

ASSEMBLY entry points:

INITI . . . . load. A with speed, .X with low byte of screen data and .Y with high byte. Then call it.

CHGSPD . . . . load .X with new speed, then call this.

SCRON . . . . load .X and .Y with low/high byte of start address.

STOP . . . . call it!

RESTRT . . . . ditto.

Note: You can use variables in the SYS calls. Also, for the speed parameter, there is no error checking, so if you enter a number other than 1, 2, 4, 8 the routine will crash.

The SAVE routine is provided to let you save screen data. It is quite useful for saving machine code too. (eg the Scroll routine). To make it as short as possible I've written it so that it always saves with a filename of "DT". You can rename it later. Also it assumes device 8 (disk). To use tape, change the indicated DATA statement as shown. SYS4, start addr, end addr+1 is the call to activate it.

The scroll works as follows:

The basic idea with smooth scrolling is to decrement the screen position register at $D016 (53270) until it reaches zero. Then you must physically move the screen one character across and reset the screen pos. back to 7 before starting again. What this actually does is 8 steps forward and 7 steps back to result in 1 step forward. If you are not careful, both stages get drawn on the screen — this causes a horrible vibrating mess (as Peter Gerrard found). You must ensure that the forward-back jump occurs before the raster can draw it. However this means that the physical scroll must be completed before the raster updates the display. Unfortunately our trusty 6510 processor is too slow to transfer 1000 bytes in anything less than about 1/60th sec. During this time about 4/5ths of the screen will been drawn. So, if you simply wait for the raster to go off screen and then start the physical scroll, it will overtake your program and result in chaos. My routine solves this problem by actually following the raster down the screen, moving the section before it. When the raster reaches the bottom, the display has been shifted 1 character to the left but has not been drawn in that position. The screen position register is instantly altered to shift it 7 pixels right. By the

cont. on next page

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time the raster gets back to the top of the screen, everything is OK. By the way, it is impossible to scroll the colour memory as well. If you look carefully, you will find that games either rig the graphics so that no colour scrolling is necessary or ensure that in total only about 26 lines of colour and screen memory is moved (eg 16 graphics lines, 10 colour lines).

There are two interrupt lines set in the program: at line 50 and 224. When the raster reaches line 224, the screen position is reset to 0 so that the bottom 3 lines do not move. At line 50, the screen display is moved and then the position for the next interrupt is calculated. If this involves a physical scroll, then that subroutine is called. When a physical scroll is required, the bottom raster interrupt will be missed but since the hardscroll doesn't shift the bottom 3 lines at all, there is no problem. As you can see, this is quite complicated but don't worry if you can't follow it — everything works fine.

The part of the program which keeps track of where to get the data to put on screen is not as simple as it could be. This sacrifice has been made so that it can be stored in the usual screen manner — not simply in a sequential order (going down 1 row means a jump of 40 in screen memory).

One final note: with short routines (such as the one which alters the screen position register $D016) interupts can give the appearance of multitasking. However the C64 cannot do this and the more time it spends on interrupt services, the less time it has for your main program. The faster you set the scroll speed, the slower your program will run. With a speed of 1, the effect is hardly noticeable since the long physical scroll routine is only called once every 8 IRQ's. At a speed of 8 it is called every time and the effect is very noticeable. If you require this speed often without it seriously affecting your program you will have to use Machine code.

To make up the scrolling display, run the DESIGN program. Just draw the screen using usual screen editing features and then press F1 to transfer the display to memory. Change the "P" variable to position data where you want. To indicate the end of the scrolling data type a SHIFTED SPACE in the bottom row of the column which is to be the last one. This appears like an ordinary space on screen but is stored as 96 not 32. The routine searches for this code and will start back at the beginning when it finds out.

The design program will stop when it finds a shifted space in any place on the bottom row. This will let you know that it has been recognised.

The DEMO program will show you how to use the scrolling routine. There will be no message, just random data (unless you first use the design program) but the main features can be seen.

Happy scrolling!!!

***NOTE:** I understand that CCI now sell disks with programs that they publish on them. I have included a full 14K Machine Code demonstration which shows off this and the "Border Remover" program (+other raster tricks) all working at once to produce a colourful display with scrolling screen, scrolling message, 14 scrolling sprites in the border, a 7 sprite Lissajous animated display on a hires background, split border colours, a scrolling border background and flashing colours. My version is even accompanied by some of Rob Hubbard's best soundtracks but due to copyright I could not include them.*

Designer Demo

```
*=$c000
line1=$32
line2=$e2
lines=22
vicpos=$d016
setup1 jsr $b7f1  ;scan past comma and get speed into .x
       txa
       pha        ;push speed to stack
       jsr getscr ;scann past comma and read address
       ldx $14    ;low byte of addr
       ldy $15    ;high byte
       pla        ;get speed from stack
       jmp init1
;
newspd jsr $b7f1  ;scan past comma and put speed in .x
       jmp chgspd
;
setscr jsr getscr ;read address
       ldx $14
       ldy $15
       jmp scron
;
stop   jmp stop2
start  jmp init2
;
;-----------------------------------
init1  sta speed  ;save speed
```

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4. **The name of my newspaper will be** ____________________

(You can find the answers to the first three questions in this CCI)
The deadline is March 15, 1989. Answers on a postcard please to:

Newsroom Competition
c/o CCI
40 Bowling Green Lane
London EC1 0NE

```
       jsr ascron ;save pointer
       lda #0     ;set screen position
       sta scrpos
       jsr init2  ;start scroll
       rts
;
speed  .byt 0     ;memory
scrpos .byt 0     ;for
colums .byt 40    ;scroll
scdata .wor 00    ;routine
;
int1   lda vicpos ;change
       and #$f8   ;screen
       ora scrpos ;position
       sta vicpos
       lda scrpos ;at zero yet?
       bne nomove
       jsr scrmov ;if yes then to physical scroll
       lda #$08   ;and reset screen to end
       jsr vicmov
exit   lda $d019  ;clear irq flag
       sta $d019
       jmp $ea31  ;service system
nomove jsr vicmov ;calculate next position
       lda #<int2 ;point to interrupt #2

       sta $0314
       lda #line2 ;set int#2 line
       sta $d012
       jmp exit
;
int2   nop        ;wait
       nop        ;for raster
       nop        ;to reach
       nop        ;side
       nop        ;border
       lda vicpos ;set screen
       and #$f8   ;to position
       sta vicpos ;0 for no scroll
       lda #<int1 ;redirect
       sta $0314  ;to int#1
       lda #line1
       sta $d012
       lda $d019
       sta $d019
       lda $dc0d  ;clear interrupt register
       pla        ;pull registers
       tay
       pla
       tax
       pla
       rti        ;and exit
;
vicmov sec        ;subrout to
       sbc speed  ;calculate
       sta scrpos ;new position
       rts
```

```
;
scrmov ldx #$00     ;subrout
loop0  lda $0401,x  ;to move
       sta $0400,x  ;screen
       inx          ;one
       bne loop0    ;character
loop1  lda $0501,x  ;to left
       sta $0500,x
       inx
       bne loop1
loop2  lda $0601,x
       sta $0600,x
       inx
       bne loop2
loop3  lda $0701,x
       sta $0700,x
       inx
       cpx #$6f
       bne loop3
       lda from+1   ;push present data pointer
       pha
       lda from+2   ;to stack
       pha
       lda #$04     ;set "to" address
       sta to+2     ;to top of last column
       lda #$27
       sta to+1
       ldx #lines   ;set counter for #lines to be scrolled
from   lda $ffff    ;these addresses
to     sta $ffff    ;are filled at runtime
       dex          ;exit if all of
       beq quit     ;last col. filled
       txa          ;save .x
       pha
       ldx to+1     ;add 40 to "to"
       ldy to+2     ;to move down
       lda #$28     ;one column
       jsr add
       stx to+1
       sty to+2
       ldx from+1   ;add 40 to "from"
       ldy from+2
       lda #$28
       jsr add
       stx from+1
       sty from+2
       pla          ;get back counter
       tax
       jmp from
quit   pla          ;get back initial
       tay          ;data pointer
       pla
       tax
       dec colums   ;dec screen column counter
       bne ok       ;to see if whole screen scrolled on
       lda #$28     ;reset column counter
       sta colums
       ldx from+1   ;point to next screen (add 41)
       ldy from+2  ;if screen done
ok     lda #$01    ;or point
       jsr add     ;to next column
       stx from+1  ;if not done (add 1)
       sty from+2
       lda $076f   ;check for last column
       cmp #$60    ;indicator (shift space)
       bne ret
       ldx scdata  ;reset pointer
       ldy scdata+1;for wrap around
       jsr scron   ;if last column
ret    rts
;
chgspd lda scrpos  ;wait for pos
       bne chgspd  ;to reach 0 then
       stx speed   ;change speed
       rts
;
ascron stx scdata  ;save beginning

       sty scdata+1;of screen data
scron  stx from+1  ;set place to
       sty from+2  ;get data from
       lda #$28    ;set column counter
       sta colums
       rts
;
init2  sei        ;subrout. to start scroll interrupts...
       lda #$1f   ;switch off timer irq
       sta $dc0d
       lda $d011  ;set for raster compare
       and #$7f
       sta $d011
       lda $d01a
       ora #$01   ;enable raster interrupts
       sta $d01a
       lda #line1 ;set line 1 interrupt
       sta $d012
       lda #<int1 ;point to irq routine
       sta $0314
       lda #>int1
       sta $0315
       lda $d016  ;switch to 39 columns
       and #247
       sta $d016
       cli
       rts
;
add    clc        ;addition
       stx $02    ;subroutine
       adc $02
       tax
       bcc cryclr
       iny
cryclr rts
;
stop2  lda $d012  ;stop subrout...
       cmp #$48   ;wait for moment after interrupt
       bne stop2  ;finished to stop flicker
```

cont. on next page

```
        sei
        lda #$31   ;switch off
        ldx #$ea   ;raster irq
        sta $0314  ;and reset
        stx $0315  ;to normal
        lda #$81
        sta $dc0d
        lda $d01a
        and #$fe
        sta $d01a
        cli
        rts
;
getscr  jsr $aefd  ;subrout to read
        jsr $ad8a  ;address after
        jsr $b7f7  ;sys call
        rts
.end
```

Revised input

A.A. Protano

This should be of interest to anyone writing programs. The Input statement has all sorts of problems. This routine will enable you to specify where the input will be, and also what type and length of input to accept.

Revised Input

This is a revised input where the Basic programmer can specify where on the screen the input will start and what length of input can be accepted and any wrong keypress will not spoil the screen display.

The program can take two forms: sys52739,X-position,Y-position,length ,variable OR sys52739,X-position, Y-position,"string in quotes",length, variable.

The X-position plus length cannot be set to greater than 39 but the length can be set to 39 with a X-position of zero. The Y-position can be set between 0-24. Variables can be used in place of the start and address, X-position, Y-position and length. The optional string in quotes can not be replaced by a variable.

The variable can be numeric, string, integer or an array. It is best to limit integers to a length of four as 999 is ok 99999 is greater than the allowed limits for an integer in basic. Delete can be used as can space. Return terminates the input as usual. If an input is required and is not given simply get the input again without disturbing the screen display.

Only numbers 0-9 can be accepted for a numberic/integer input; A-Z and 0-9 can be accepted for a string.

Note also the program does not erase the portion of screen where the input will take place, but, using cursor and space or delete within the string in quotes the routine can be made to erase that portion of the screen. Reverse field characers can also be selected in this way. If a character is to be printed in the last column a line will be opened on the screen unless this is desirable set the X-position plus length to no greater than 38.

If any of these parameters are

exceeded an ILLEGAL QUANTITY ERROR will be printed along with the line number; it can only be used in program mode.

The program uses locations 251, 252, 253 and 254 in page zero.

By altering the program via a dissassembler or a source listing it can be made to accept only the characters you decide ie a Y/N answer or only 0-9.

MOB Position Program

Use by SYS 49152, X-position, Y-position, Sprite.

X-position can be 0-511, Y-position can be 0-255, sprite can be 0-7; and can be the value of variables within your program. If these values are exceeded an illegal quantity error is printed. The program can be relocated anywhere in available memory, by changing the start address, as it does not use any tables.

TE it does not wait for the raster line to clear the screen and is therefore liable to the usual flicker inherent with BASIC.

```
10 REM PROGRAM TO SEND A HI RES SCREEN TO A 120-D PRINTER
20 GOSUB 2000 : REM LOAD MACHINE CODE IN TO MEMORY
30 GOSUB 1000 : REM FLIP CHARACTERS FROM 8192 TO 16384
40 GOSUB 3000 : REM SEND DATA TO 120-D PRINTER
50 GOSUB 1000 : REM RESTORE CHARACTERS FROM 8192 TO 16384
60 END
1000 FOR CHAR=8192TO16384STEP8
1010 SYS49152,CHAR:NEXTCHAR
1020 RETURN
2000 REM MACHINE CODE DATA TO TURN CHARACTERS ON THIER SIDE
2010 FORD=0TO71:READA:C=C+A:POKE49152+D,A:NEXTD
2020 IFC<>6755 THEN PRINT"DATA ERROR":STOP
2030 DATA 032,253,174,032,138,173,032,247
2040 DATA 183,162,000,160,000,024,177,020
2050 DATA 061,052,192,240,001,056,038,002
2060 DATA 200,192,008,208,240,165,002,157
2070 DATA 060,192,232,224,008,208,228,160
2080 DATA 000,185,060,192,145,020,200,192
2090 DATA 008,208,246,096,128,064,032,016
2100 DATA 008,004,002,001,000,000,000,000
2110 DATA 015,000,000,000,000,000,000,000
2120 DATA 000,000
3000 OPEN4,4
3010 PRINT#4,CHR$(27);CHR$(65);CHR$(7):REM SELECT BIT MODE
3020 FOR CHAR=8192TO 16191 STEP 320 :L$="" :R$=""
3040 PRINT#4,"[SP5]";:REM SET MARGIN
3050 FORN=0TO159
3060 L=PEEK(CHAR+N)     :L$=L$+CHR$(L)
3061 REM CALCULATE LEFTHAND SIDE OF SCREEN
3070 R=PEEK(CHAR+N+160):R$=R$+CHR$(R):NEXTN
3071 REM CALCULATE RIGHTHAND SIDE OF SCREEN
3080 PRINT#4,CHR$(27);CHR$(75);CHR$(160);CHR$(0);L$;
3081 REM PRINT LEFTHAND SIDE OF SCREEN
3090 PRINT#4,CHR$(27);CHR$(75);CHR$(160);CHR$(0);R$
3091 REM PRINT RIGHTHAND SIDE OF SCREEN
3100 NEXTCHAR
3110 PRINT#4,CHR$(27);CHR$(64):CLOSE4,4
3120 RETURN
```

```
10 A=52736:X=0:Y=0
20 FOR Y=0 TO 34 :C=0
30 FOR X=0 TO 7  :READ D
40 POKEA,D:A=A+1:C=C+D:NEXTX
50 READ D :IF D <> C THEN PRINT"DATA ERROR IN LINE";1000+Y*10 :STOP
60 PRINT"LINE";1000+Y*10;"OK":NEXTY
70 END
```

```
80 REM  INPUT = 52739
90 REM  SYS52739,XPOS,YPOS,STRING,LENGHT,VARIABLE
100 REM OR SYS52739,XPOS,YPOS,LENGHT,VARIABLE
1000 DATA 076,072,178,032,166,179,169,000,0872
1010 DATA 160,040,153,000,002,136,016,250,0757
1020 DATA 032,000,226,224,040,176,233,134,1065
1030 DATA 251,032,000,226,224,025,176,224,1158
1040 DATA 134,252,164,251,024,032,240,255,1352
1050 DATA 032,253,174,032,121,000,201,034,0847
1060 DATA 208,015,032,189,174,032,033,171,0854
1070 DATA 056,032,240,255,132,251,032,253,1251
1080 DATA 174,032,158,183,240,186,224,040,1237
1090 DATA 176,182,134,253,138,024,101,251,1259
1100 DATA 201,041,176,172,169,000,133,254,1146
1110 DATA 133,017,141,000,002,032,253,174,0752
1120 DATA 169,044,141,255,001,032,139,176,0957
1130 DATA 133,073,132,074,166,252,164,251,1245
1140 DATA 024,032,240,255,032,198,206,201,1188
1150 DATA 013,240,024,164,254,153,000,002,0850
1160 DATA 032,210,255,230,251,230,254,165,1627
1170 DATA 254,197,253,144,223,198,251,198,1718
1180 DATA 254,176,217,032,002,207,169,000,1057
1190 DATA 164,254,200,153,000,002,165,122,1060
1200 DATA 164,123,133,075,132,076,162,255,1120
1210 DATA 160,001,134,067,132,068,076,077,0715
1220 DATA 172,165,254,240,017,164,251,169,1432
1230 DATA 032,145,209,136,166,252,024,032,0996
1240 DATA 240,255,198,254,198,251,165,198,1759
1250 DATA 133,204,141,146,002,240,247,120,1233
1260 DATA 165,207,240,009,165,206,174,135,1301
1270 DATA 002,160,000,132,207,032,180,229,0942
1280 DATA 201,013,240,016,201,032,240,012,0955
1290 DATA 201,020,240,197,201,048,144,005,1056
1300 DATA 201,058,176,001,096,164,013,240,0949
1310 DATA 205,201,065,144,201,201,091,176,1284
1320 DATA 197,096,165,199,208,009,164,251,1289
1330 DATA 177,209,041,127,145,209,096,164,1168
1340 DATA 251,177,209,009,128,145,209,096,1224
1350 REM * DATA FOR REVISED INPUT *
1360 REM * FROM 52736 TO 53015    *
```

★ Program Submission Procedure ★

DO NOT submit any program or routine that you do not either own or have property authority to do so.

ALWAYS include your name, address and the date on all material and any enclosures.
Do not forget to make it clear exactly which computer/s your program or article is applicable to.

Include ROM or DOS versions wherever they are pertinent.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Number all pages.

Never use staples. Use paperclips if necessary.
If you are saving your program to tape then save it AT LEAST twice on each side.
When you save a program on disk save it twice and call the second file "BACKUP".

Remember to label all tapes and disks with your name and the title of the program. Label tape or disk with your name and the name or title of the program.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

Please allow at least 8 weeks for acknowledgement as all programs have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your program to be returned.

★ Programming tips ★

If you can, use CHR$(x) type commands instead of those hard to read graphic symbols.
If necessary renumber your program on completion a many readers use auto number utilities to ease typing in.

Try to keep instructions within the program itself at a sensible level. You can expand on them within the accompany text if necessary.

TEST your programs before submitting them or even better get a friend to test them for you.

If a program contains machine code data please use decimal and not hex as there are fewer digits to be confused. Try and keep the same number of data statements in each line. Please add some form of error checking if your program contains more than five lines of data.

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Wanted. A music program compatible with midi. Send offers to: Paul Colmer, 149 London Road, High Wycombe, Bucks HP11 1BT.

Wanted. C64 printer MPS 801, or a Commodore compatible printer also MK IV. Professional cartridge, every letter answered. Send to: Jon Sibley, 65 Granby Close, Weymouth, Dorset DT4 0SR.

Instruction manual for page setter and dynamic C.A.D. for the Amiga urgently required. Please may I borrow one for a while. Write to: Son Gargori, 4 Caprepera, Mallorca.

4040 dual disk drive, 4032 Comp, for sale, offers. Phone Chris, Orpington (0689) 76630.

C.B.M. 64+ datasette, joystick, paddles, sound expander system with full size keyboard. £400 worth of software tapes, cartridges, including music master, interdictor, pilot leaderboard, £260. Tel. 01-572 8229.

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Wanted Amiga contacts Worldwide, all letters will be answered. Write to Mike, Nordlundeien 53, 7080 Heimdal, Norway.

Tariq is my name, I'm an Amiga owner and interested in demos and games. All letters answered. Write to, Tariq, Mishref, Block 3, St 4 House no.1, 40003, Kuwait.

AMIGA 500, user would like contacts all over the world, for swaps etc. Please send list to Alex, 112 Porthkerry Road, Barry, South Glamorgan, CF6 8ER.

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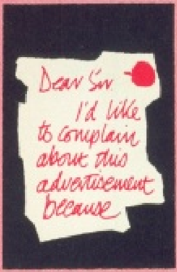

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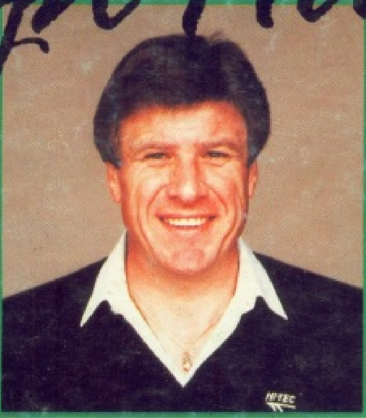

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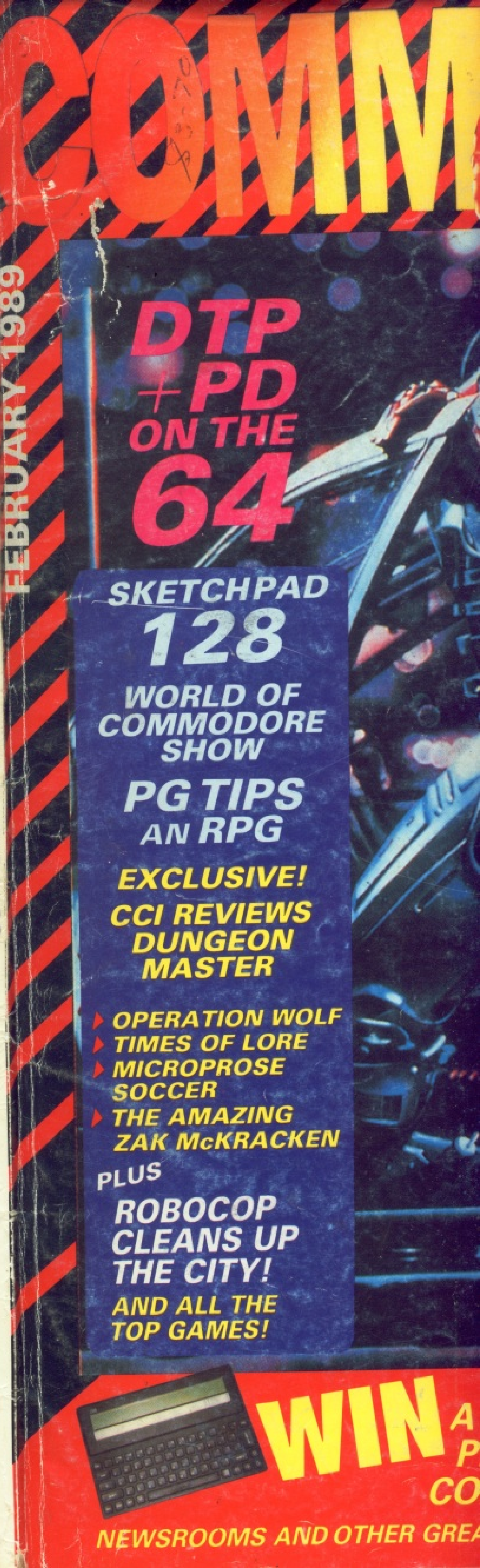
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